

# HOME CINEMA

HIGH-PERFORMANCE SOUND & VISION

## Choice

**STAR WARS**  
Our guide to  
collecting the  
SF saga



**Perfect projection**  
Top of the range  
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# Supersize TVs!

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■ PAIN AND GAIN  
■ GAME OF THRONES  
■ BREAKING BAD  
■ PREDATOR 3D  
■ & MORE!

## High-end hero

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stunning processor/amp duo

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→ ONKYO AND ARCAM AVRs → FREESAT'S APP → ATTIC CINEMA CONVERSION

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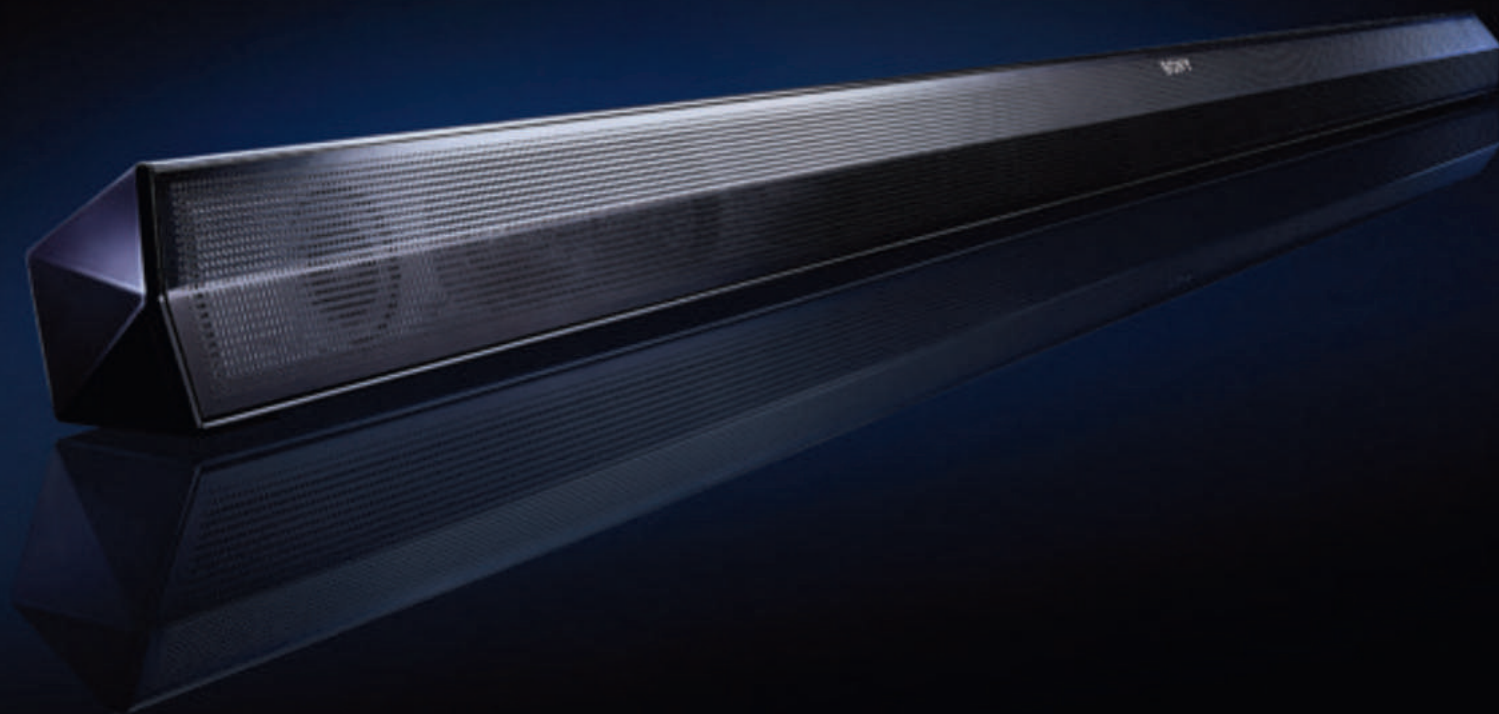


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# HOME CINEMA

Choice

www.homecinemachoice.com

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Datsat's astonishing audio processor, p18

# WELCOME

In one of our recent online polls, 26 per cent of voters revealed they hadn't been out to the cinema at all in the last 12 months. Hardly surprising, as there are many reasons to stay away from the multiplex – the cost of tickets, the unappetising food and having to share the experience with complete strangers chief among them. Yet commercial cinemas haven't stood still technologically, and I do believe the no-shows could be missing out. Digital 4K, super-size 3D and Dolby Atmos audio are some of the reasons I keep finding myself waiting at the box office despite having a cinema setup at home.



This is why I love products like Datsat's RS20i, this issue's 'High-End Hero'. It's expensive, certainly, but **it truly narrows the gap between the sonic delights you can find at the best commercial venues and in your own room.**

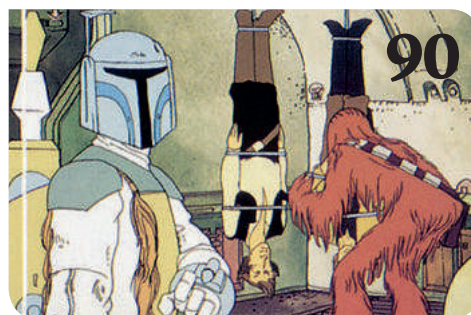
As cinema evolves, home cinema needs to as well. The more of these 'crossover' products we can get, the better!

*Mark Craven*  
Editor





# MENU



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**John Archer:**  
The UK's most experienced TV tester cut his teeth as an early HCC staffer



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**Adrian Justins:**  
Made his name as the editor of *What Video & TV* and *What Home Cinema*

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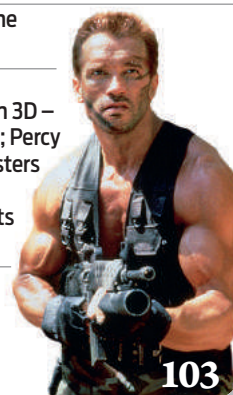
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# BULLETIN

→ **NEWS HIGHLIGHTS** **SAMSUNG** The wireless speaker with home cinema aspirations  
**FREESAT** New iOS app enables remote TV recording **CYP** AV accessories specialist unveils cost-effective DemoPad processor **NEWS X10** The hottest news stories in bite-size chunks **THOR: THE DARK WORLD** Give your system a good hammering as this superhero sequel hits Blu-ray and DVD **AND MUCH MORE!**

## Cure your 4K Blues

Sony BDP-S6200 → [www.sony.co.uk](http://www.sony.co.uk)



In the absence of native 4K content, just what exactly are you supposed to watch on your new 4K screen? Sony's answer is to upscale your Blu-ray collection to beyond Full HD resolution with its new BDP-S6200 deck. Priced around £200 and due to hit the UK any day now, the player also promises boosted Wi-Fi performance for content streaming across your home network, Digital Music Enhancer technology to breathe fresh life into compressed audio files, and a claimed bootup time of under one second courtesy of Super Quick Start functionality.

### HCC ONLINE...

Looking for breaking AV news, blogs, features, & reviews? For your daily fix visit us at [www.homecinemachoice.com](http://www.homecinemachoice.com) Follow us on Twitter @hccmag



# Get in Shape

Samsung Shape M5  
→ [www.samsung.com/uk](http://www.samsung.com/uk)



Samsung is gunning for a slice of the multiroom audio pie with its Shape M5 wireless speaker. More compact and with fewer drivers (three as opposed to five) than the M7 model announced late last year, the M5 looks set to go head-to-head with Sonos's recent Play:1 speaker; hook it up to your router, or optional Samsung hub, and use the Multiroom app on a smart device to cue up audio and manage configurations. For a home cinema environment, Samsung suggests combining two M5s with its new HW-H750 soundbar (right) to create a wireless 5.1 system.





## High-fidelity Blu-ray



Apparently designed from the 'ground up' with components

optimised for 'enhanced analogue audio performance', the BDP-105D is the latest addition to Oppo's range of high-end Blu-ray players. Priced around £1,100, the high-fidelity deck features an all-new analogue audio stage powered by two ESS Sabre32 Reference DACs, balanced (XLR) and unbalanced (RCA) dedicated stereo outs, a Toroidal linear power supply and an asynchronous USB DAC input upgraded to support DSD 64/128. [www.oppo-bluray.co.uk](http://www.oppo-bluray.co.uk)

## T+A upgrades sub



'We set very high audiophile standards even in the case of subwoofers,' says German brand T+A as the reasoning behind the new SE (Special Edition) version of its Criterion TCD 610 W

subwoofer. This towering £3,700 model features twin revamped 10in cellulose/carbon composite drive units, a new 1,000W amplifier with digital signal processing, calibration via a microphone and dedicated PC software, and claims a room-rumbling frequency range of 15Hz-150Hz. [www.ta-hifi.com](http://www.ta-hifi.com)

## Arcam's dinky DAC



The miniBlink is the latest (and smallest) addition to Arcam's range of mass-market digital-to-analogue converters.

Designed to offer easy connection to music stored on your mobile phone, tablet or laptop, the palm-sized, pebble-shaped Bluetooth DAC will retail for an eye-catching £90 when it launches later this month. Weighing in at just 40g and supporting aptX transmission, it takes power comes via mini-USB (so can be charged from a laptop) and offers a 3.5mm audio output jack [www.arcam.co.uk](http://www.arcam.co.uk)

# Freesat frees up TV control

New iOS app adds remote recording to the subscription-free service

Freesat has unleashed a new app that the company says makes it easier and more enjoyable for its viewers to find and manage their TV viewing. Combining a graphically-enriched EPG with remote control functionality, the app provides a means of browsing TV schedules and on-demand content without disturbing the live TV screen, and it allows users to set recordings remotely.

For owners of Freesat Free Time set-top boxes (currently only made by Humax), the Roll Back TV Guide on the app facilitates access through the EPG to those shows which were broadcast during the previous week and are available from BBC iPlayer, ITV Player, 4OD and Demand 5. The app runs on iOS 6.01 or later and requires a Wi-Fi, 3G or 4G connection.

At a briefing in London, Dan Chronnell, Freesat's Director of Product Development, chatted to *HCC*. 'Research shows that when families currently sit down at the weekend to watch TV together they end up watching old DVDs instead. But with the app-based EPG our customers will find more things to watch and/or record.' Chronnell claims this is



**Dan Chronnell: 'With Freesat's app-based EPG our customers will find more things to watch and/or record'**

because the app uses pictures to 'supplement text information for most shows and also provides more detailed written descriptions.'

The app prominently features a Showcase section, showing suggested viewing, which is split between On-demand and On TV. To watch a show straight away on their TV screen users drag the thumbnail up into a small TV icon at the top of the app; to schedule it for recording they drag down.

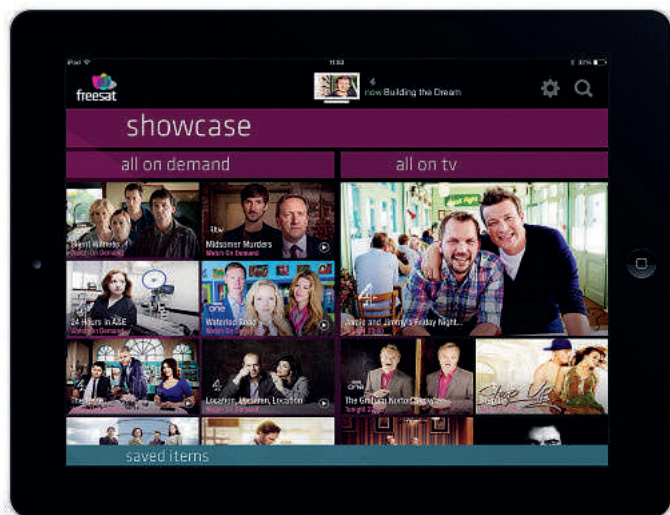
Another section provides direct access to the four on-demand broadcaster portals, plus YouTube. Searching for a specific show, such as *Sherlock*, is improved by aggregating the results of all on-demand and scheduled broadcasts.

### More HD on the way?

Although it is currently only available on iOS devices, Chronnell confirms that an Android version of the app is in development. But what else does Freesat have in store for its customers? Can users expect to see the integration of streaming services such as Netflix or LoveFilm? 'That would be brilliant and we're in talks with providers,' says Chronnell, giving little away.

What about the addition of more HD channels to Freesat's existing line-up of 11? That looks like more of a sure thing, given that when asked about 4K he replies: 'We're really keen to see that coming. But for us this year is all about the app and converting over to HD.'

**Take control of Freesat with an iOS device**



## PLAYLIST...

Team *HCC* spins up its disc picks of the month

### Big Trouble in Little China (Region B BD)

This stunning hi-def package breathes new life into John Carpenter's action flick with a stellar transfer and vast array of bonus features

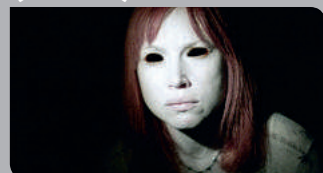


### Alan Partridge: Alpha Papa (Region B BD)



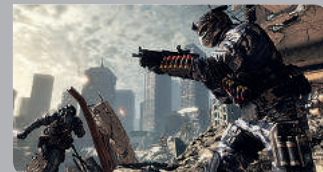
Repeat viewings in the *HCC* cinema den have done nothing to diminish the hilarity of this big-screen debut for Steve Coogan's finest creation

### Banshee Chapter (R2 DVD)



From *Beyond* meets *The Ring* in this chilling tale involving top-secret experiments and a disturbing radio signal of unknown origin

### Call of Duty: Ghosts (Xbox/PS3/PS4/PC)



The single-player campaign is a pretty rote affair, but when it comes to multiplayer *COD* can't be beaten!

### Dr. Who: The Time of the Doctor (All-region BD)



This two-disc set serves up the Eleventh Doctor's swan song and his three prior Christmas Specials



## EXTRAS...

Small items that make a big impression

### The Walking Dead: Bottle Opener



Diamond Select Toys is responsible for this nifty 3.5in solid metal bottle opener based on one of Michonne's 'pet zombies' from cult TV show *The Walking Dead*. Yours for just £17.

### The Art of Mr. Peabody & Sherman



Animation fans will get a real kick out of this latest addition to Titan's 'The Art of...' range, focusing on DreamWorks' latest animated hit.

### Tyrion Lannister in Battle Armour



This limited edition is a fresh entrant to Pop! Vinyls' growing range of figurines based on the epic fantasy TV series *Game of Thrones*. This version of Tyrion Lannister will set you back £8.99 and is exclusive to <http://store.hbbook.com>.

### Hatchet Job



Mark Kermode's third book delves into the current state of film criticism and the impact upon it from the internet. Essential reading.

# CYP's accessory to success

AV distribution specialist debuts cost-effective DemoPad processor

At a time when many of the big-name AV brands are struggling financially, it's rare to come across one industry player that can boast about the sales of its products having nearly doubled year-on-year for the past three years. But that's precisely the position that AV distribution specialist CYP finds itself in.

'We provide the glue that goes between the sources and displays,' explains CYP's Sales and Marketing Director Philip Davis. To this end, the company carries a range of over 350 AV switching and audio accessories aimed at system integrators and professional installers – not including the 30 new products that will have been unveiled at the ISE trade show by the time you read this.

A large part of the company's continuing success in the pro-install sector stems from its large range of HDBaseT products, which streamline AV distribution by simultaneously carrying HD video, audio, internet, control data and even power over a single Cat5e/6 cable. Not only does this simplify the entire installation process, it also offers longer cable runs than HDMI (CYP's tech bod Neil Walton

suggests it can reach up to 70m for 4K 24fps content). It's something that clearly appeals to installers: 'Our sales of HDBaseT have more than tripled in the past 12 months' reveals Davis.

The company has also found plenty of



**Philip Davis:** 'When you're faced with the complex issue of distribution there are a host of things that can and will go wrong'.

success in its partnership with iOS and Android-based control app DemoPad. And it's here that CYP hopes to shake up the install

market with the new inexpensive DemoPad CENTRO 8 control processor. 'If you went the route of Crestron or AMX and wanted to control eight sources to eight screens you'd be looking at tens of thousands of pounds. The processing box alone could cost £5,000. If you went down the Control4 route, maybe £1,500. You could do the same thing with DemoPad for a fraction of that price,' claims Walton.

### Golden oldies

CYP also understands that older AV accessories can have surprisingly long lives thanks to the whims of the big tech manufacturers, and points to the Sonos Playbar soundbar as an example. 'Sonos's decision to only put an optical digital output on its Playbar has led to a sales increase of over 1,000 per cent for some of our accessories,' admits Davis. 'Products that we thought were dead and buried [CYP offers audio embedding gizmos that will feed optical audio into HDMI] are suddenly among our best-sellers!'

'We also have a lot of entry-level DACs that sell for between £40 and £60 that are ideal for people wanting to connect a new TV to their old two-channel analogue amp.'



**DemoPad's new processor makes home automation more affordable**

# SVS aims for best-in-class bass

Two new models claim to 're-set the bar' for performance

American subwoofer specialist SVS took the wraps off two new models at CES 2014. The SB-2000 and PB-2000 (pictured) will retail in the US for \$700 and \$800 respectively, and we expect similarly affordable price-tags when distributor Karma AV brings them to the UK later this year.

Both woofers utilise a newly-designed driver crafted to get the most out of the 500W Sledge DSP amplifier. This 12in 2000 Series driver is the result of nearly 20 generations of prototypes and 100 hours of

full-power testing, says the brand. An FEA-optimised motor, reinforced Nomex spider and 'low-creep' rubber long-throw surround are among the tricks that SVS claims have delivered a driver 'capable of outclassing those in subwoofers costing two or three times as much.'

The living-room friendly SB-2000 features a sealed cabinet and a rated frequency response of 19Hz-240Hz. The larger, ported PB-2000 is targeted at those seeking a more thunderous performance, with SVS stating that it drops to 17Hz.





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## DIARY

Our calendar ensures that you don't miss out...

### → FEBRUARY

#### 07: Robocop

Even if it doesn't measure up to Paul Verhoeven's 1987 sci-fi masterpiece, we're still looking forward to catching this big-budget remake when it hits UK cinemas.  
[www.studiocanal.co.uk](http://www.studiocanal.co.uk)

#### 10: Filth

Fans of actor James McAvoy and cult author Irvine 'Trainspotting' Welsh will want to track down a copy of this anarchic comedy about a corrupt cop as it makes its debut on Blu-ray and DVD in the UK.  
[www.lionsgatefilms.co.uk](http://www.lionsgatefilms.co.uk)



#### 14: Her

In the mood for a little love this Valentine's Day? Then pop down to your local theatre and check out this wonderfully weird new film from Spike Jonze about a man who falls in love with a Siri-esque operating system.  
[www.entertainmentfilms.co.uk](http://www.entertainmentfilms.co.uk)

#### 21: The Bristol Show: Sound & Vision 2014

HCC will be joining the rest of the AV industry in making tracks for Bristol's Marriot City Centre Hotel when the UK's largest hi-fi and home cinema show opens its doors to both the trade and public between Friday February 21 and Sunday February 23.  
[www.bristolshow.co.uk](http://www.bristolshow.co.uk)

#### 24: Thor: The Dark World



The Marvel superhero bandwagon keeps on rolling with the UK DVD and Blu-ray release of this blockbuster sequel for the hammer-wielding Nordic God. Expect this disc to bring thunder to your audio array...  
[www.disney.co.uk](http://www.disney.co.uk)

### → MARCH

#### 03: Jackass Presents: Bad Grandpa

Johnny Knoxville serves up a new twist on the usual hidden camera malarky by taking on the role of the titular 86-year-old for this trip across America. If you've the stomach for it, an extended edition hits BD today!  
[www.paramountpictures.co.uk](http://www.paramountpictures.co.uk)

#### 06: HCC #232

The next issue of your favourite home cinema magazine hits the stands today, packed with hardware tests, features, outspoken opinion and in-depth software reviews.  
[www.homecinemachoice.com](http://www.homecinemachoice.com)

# CEDIA reveals changing trends

4K screens and content streaming are growing in popularity in pro cinemas

CEDIA, the industry body for the professional install trade, has announced the results of recent research into the UK market, and the statistics show the changing face of custom cinemas.

For instance, 16 per cent of all TVs/displays fitted by install professionals between last Summer and this Summer were projected to be 4K models, a figure it's easy to assume is much higher than you'd find on the UK high street. The premium nature of the custom theatre biz is backed up by the financial statistics – CEDIA says the value of the UK market is now around £850m. On average, firms are completing 24 projects a year.

Next to 4K, cloud/streaming services are enjoying growth, with 64 per cent of installs incorporating net-delivered content in 2013, up from 57 per cent the previous year.

The study was commissioned by CEDIA Region 1 (which covers the UK, Europe, Africa, the Middle East and parts of Asia), and conducted between July and October last year. CEDIA Region 1 Executive Director Wendy Griffiths is pleased with the survey results: 'The research presents a positive outlook... demonstrating that we are steadily growing.'

And how does the typical installer earn their bread? Through AV, of course. Respondents reported 48 per cent of their turnovers coming from audio-visual projects. Of these, around half the cost was on equipment, but note this includes wiring and



**CEDIA's Wendy Griffiths:** 'The research presents a positive outlook, demonstrating that we are steadily growing'

interconnects. Indeed, 23 per cent of kit spend is on cabling, hinting at the complexity of a typical install.

A separate survey, conducted by CEDIA during the Gadget Show Live in late 2013, is perhaps less good news for professional AV fitters. While up to 90 per cent of those asked revealed they would like to have automatically operated blinds and curtains, and a whopping 87 per cent are keen to get outdoor speakers and controls, less than a third said they would hire a home technology whizz to carry out the work.

### Setting out the facts

Aware of potential confusion over 4K, CEDIA has also made a free whitepaper available to consumers. Titled *What is Ultra High Definition and Why Does it Matter?* (perhaps adding '4K' in there would help, as the hardware manufacturers can't even seem to agree on a term...), it outlines the performance benefits, appropriate screen sizes, content concerns and tackles FAQs

in a manner that could be perfect for helping you to convince other family members that it's time for an upgrade.

The paper can be downloaded from [www.cediaeducation.com/resources/whitepapers](http://www.cediaeducation.com/resources/whitepapers), once you've set up login details.



CEDIA installs increasingly feature streamed content

## Bright future for projection

LED technology brings picture benefits to Optoma's HD91

Optoma says it has harnessed LED technology to ensure consistent brightness and colour performance throughout the lifetime of its new £3,000 HD91 Full HD 3D projector.

'The perceived brightness from the HD91 can be twice that of an equivalent lamp-based projector,' claims Head of Product Management Justin Halls. 'This means it can comfortably handle low levels of ambient light with less impact on image quality than traditional lamp-based systems.' As the HD91 produces less heat, it can be installed closer to walls and ceilings, while the use of advanced LED switching results in increased image stability.

New picture processing technologies utilised by the HD91 include PureMotion4, PureColour and UltraDetail, with Optoma boldly proclaiming that the latter 'gives the impression of near-4K image quality without the artefacts associated with the moving pixel systems.'

Other features include a 500,000:1 contrast ratio with Dynamic Black technology, 1,000 ANSI lumens brightness, twin HDMI 1.4a inputs, bundled 3D glasses and a full colour management system.



This month's top 10 news stories in handy, bite-sized chunks...



*The Hobbit: the film people hate paying for*

**1 Pirates love Hobbits**  
It may have hit cinemas in 2012, but *The Hobbit: An Unexpected Journey* still managed to come top of the list of 2013's most pirated films, notching up more than eight million downloads on BitTorrents networks last year. While the rest of the top ten was made up of the expected blockbusters, there were a few surprises, such as *Gangster Squad* in seventh place and indie rom-com *Silver Linings Playbook* in fifth (presumably as people tried to find out why it had been nominated for so many Academy Awards).

**2 Pirates also love dragons**  
Meanwhile, 2013 also saw HBO's *Game of Thrones* become the most downloaded TV show for the second year in a row. The Season Three finale came close to scoring six million illegal downloads – making it the only show in the top ten where the number of downloads exceeded its estimated US viewing figures (5.5 million).

**3 'Fastest ever' broadband**  
BT and Alcatel-Lucent have announced that broadband speeds of 1.4 terabits per second were recorded during a joint test conducted on a 255-mile link between London and Ipswich. According to tech boffins, this is enough to send a whopping 44 uncompressed HD films a second.

**4 Hi-Res audio makes Tracks**  
Pioneering US high-resolution music store, HDTracks.com, is set to officially launch in the UK this Spring. Due to be up and running 'by the end of March or the first week of April', the store aims to create the world's largest catalogue of high-res audio files and promises 10,000 albums at launch in the uncompressed PCM format.

**5 Sky targets TV ads at you**  
Sky has announced a new AdSmart program that will target TV adverts at customers depending on their profile and location. The tech sends a library of ads to your Sky+HD box, selects those that best match your profile (based on your post code and demographic info from third-party suppliers) and inserts them into a live ad break.

**6 Red Button gets Smart**  
The BBC has launched a beta version of its Connected Red Button service on a range of Samsung and Sony Smart TVs, with LG Smart TVs to follow in the very near future. Red Button Connected allows users easy access to catch-up services for all of the BBC channels, even when they are off-air, as well as providing additional streams of content during major sporting events.

**7 Warner Archive branches out**  
Since 2009 The Warner Archive Collection has been making niche films and TV shows from the studio's vast back catalogue available on DVD in the US through a manufactured-on-demand model. Now it appears that the studio may soon branch out into offering film scores and other music titles available on CD via the same system. Good news, but we'd be happier if the regular DVD service was extended to the UK, too.

**8 Americans love VCRs**  
Recent information compiled by Gallup in the run up to CES claims that 58 per cent of Americans still have a VCR in their home – considerably more than the 41 per cent that own a games console.

**9 Studio ditches film prints**  
Paramount has become the first major studio to stop distributing movies as prints in the US. According to a report in the *L.A. Times*, the studio made history by making *The Wolf of Wall Street* available only to cinemas digitally, with no 35mm film prints on offer.

**10 Porn fans favour PS4...**  
...or so adult DVD service SugarDVD wants us to believe. The site, which bills itself as the Netflix of smut, claims that four times as many people have signed up to use the SugarDVD app for the PS4 than the Xbox One version. However, this hasn't stopped SugarDVD CEO Jax Smith from proclaiming

Microsoft's new console 'the gateway for porn of the future', adding: 'The PS4 is pretty, but Xbox One allows for more seamless integration and a more interactive experience.' Ooh-er.



## PREMIERE

What's happening in the world of TV and films...

### NBC finds its Rosemary

*Star Trek's* Zoe Saldana has been cast in the lead role in NBC's upcoming four-part TV adaptation of *Rosemary's Baby*. Filming on the miniseries is due to get underway in Paris any day now.

### More monkeys for Matt



It would appear that the execs at 20th Century Fox are pretty chuffed with what director Matt Reeves has done with this July's blockbuster sequel *Dawn of the Planet of the Apes*, as they've already signed him up to direct and co-write a third film in the reborn sci-fi franchise.

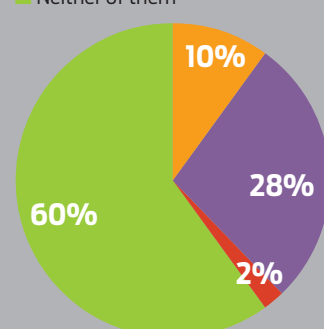
### Smith keeps busy

There's just no stopping fanboy favourite filmmaker Kevin Smith right now. As if currently finishing up post-production on the horror flick *Tusk* and gearing up to shoot *Clerks III* in May wasn't enough to keep him busy, the writer-director has also started work on a script for an 'apocalyptic horror comedy musical' called *Helena Handbag*.

## WE ASKED...

Which of the two new consoles do you own?

- Microsoft Xbox One
- Sony PlayStation4
- Both of them
- Neither of them



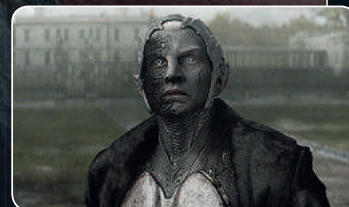
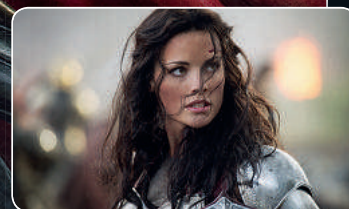
Results from [www.homecinemachoice.com](http://www.homecinemachoice.com)  
Go online for more polling action



# Hammer time!

Thor: The Dark World → Walt Disney Home Entertainment → All-region BD/R2 DVD

The latest offering from the ongoing Marvel cinematic universe arrives on Blu-ray, 3D Blu-ray and DVD on February 24. Extras on the standard-def platter include a deleted scene and a peek at the upcoming *Captain America: The Winter Soldier*, while the hi-def versions add an audio commentary by director Alan Taylor, producer Kevin Feige, actor Tom Hiddleston (Loki) and cinematographer Kramer Morgenthau; extra deleted/extended scenes; a gag reel; two featurettes; and a new *Marvel One-Shot* short entitled *All Hail the King!*







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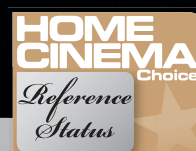
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# Datasat's audio duo brings the benefits of high-end commercial cinema to a domestic environment – but you'll need a big room...

THE BRAND ON the front of this massive pre/power combo may not be the first that springs readily to mind when it comes to high-end home theatre, but Datasat has more rights than most to call dibs on the market. Having played an intrinsic role in the birth of multichannel digital movie sound, this UK-based outfit has credibility in spades.

The Datasat Digital Entertainment story dates back to 1993, when superstar director Steven Spielberg persuaded Universal Studios to include a revolutionary 5.1 audio system from fledgling cinema sound troupe Digital Theatre Systems, now better known as DTS, on his upcoming fantasy *Jurassic Park*. Rushed into theatres for the movie release, the system was to become an essential element of a generation of blockbusters. The company's rivalry with competitive multichannel sound system Dolby Digital went on to define the home cinema market.

DTS was eventually split into two autonomous divisions, covering the home and theatrical markets. The digital cinema business was eventually sold off to Datasat

in 2008, with the DTS branding jettisoned in 2011. Today you'll invariably see the Datasat logo closing out the credits of every major motion picture.

## Eyes on the prize

With a lineage that can be tracked back to the very first DTS digital multichannel movie soundtrack, the company clearly understands bigscreen audio. The RS20i processor featured here, along with the RA7300 seven-channel power amp, is the brand's opening (admittedly super high-end) gambit into the home cinema space. Retailing for a combined £33,000 (£18,600 for the processor and £14,400 for the amp), these are hardly impulse buys. Indeed, they only actually make sense within a bespoke all-encompassing custom cinema installation that will cost a magnitude more. Together, though, they could well be the most exciting-sounding home cinema components on the planet.

The RS20i is essentially a domesticated version of Datasat's cinema AP20. That >

Steve May's idea of a good amplifier is one that causes all the lights in West London to flicker uncontrollably – just from switching it on







SHARC-infested processor brought an audiophile sensibility to the commercial theatre market for the first time, and fittingly this domesticated sibling takes that ethos to another level. It has a superior power supply and upgraded componentry, including Analog Devices DSPs and Burr-Brown PCM4104 DACs.

Putting the muscle on the RS20i's armature is the RA7300. Tipping the scales at a hernia-inducing 56kg, this power amp is an absolute beast. It may be more difficult to lift than Thor's Uru hammer, but wrestling it into position is worth the effort.

Despite its formidable size and improbable weight, the RA7300, unlike the RS20i, is not a derivation of commercial kit. It's very much conceived as a consumer product, albeit one that's ridiculously over-engineered. The RA7300 was designed by Morris Kessler, the founder and chief engineer at ATI, the American high-performance amplifier specialist. Clearly he was having fun with the commission.

The amplifier is tethered by twin power sockets. This is because at full tilt there simply isn't enough juice available from a single 13-amp plug to drive it. The amp is rated at a humongous 300W per channel into eight ohms. Of course, unless you're hoping to pressure load the S.H.I.E.L.D. helicARRIER you're never going to utilise all that volume, but you'll still need to connect both power outlets, as the amp distributes the power equally from each socket.

The RA7300 couples to the RS20i using a chunky 25-pin D-Sub connector. Not seen in the consumer market, this is a familiar connection standard for a professional cinema installation. A 12V trigger syncs the amp with the processor. While the speaker terminals are not labelled, they follow a logical left, right, centre, etc, topology.

It's important to stress that this Datasat combo is not plug 'n' play. Anyone who buys it will inevitably enjoy a dealer install. The system also lacks many of the niceties routinely found on unapologetically more

affordable AVRs. Don't buy this thinking you can tweak it into rude health yourself.

Of course, hooking up source components to the processor is relatively straightforward. There are four HDMI v1.4a inputs, although only one output. There're also three digital audio inputs (two optical and one coaxial) and a couple of analogue stereo jacks.

### Complex beast

The complexity comes in the system setup. There's copious bass management control, so whether you want to assign four individual subwoofers or pairs, the RS20i can cope. For our audition, I plumbed in a trio of subwoofers (twin passive models from Velodyne driven by a separate power

**'These are not impulse buys – they only make sense as part of an all-encompassing custom cinema install'**

amp and an active sub from Crystal Audio) via daisy-chained multi-way cable and XLR connection.

While the menu offers a variety of configurations, I ran the rig as a 7.3 system. Support for phantom mixes is offered, be it centre or rears, yet the chances of kit of this calibre being installed in a venue without a full complement of speakers seems slight.

The versatility of the RS20i is overwhelming. There's provision to have different equalisation for movies, music and games. Every input can be configured differently. Want to tri-amp your front channels, pro-cinema style? No problem. Dig deep enough and you'll even find some vestigial cinema modes buried in the menus that have no role to play in a home theatre environment, such as the Monitor Mix, a downmixed mono confluence of all channels.

There's no traditional IR control supplied. It's intended to be used within a broader home

**Datasat's RS20i is derived from the company's AP20 pro-cinema component**

control system, be it Crestron, Control 4, AMX, etc. The system can also be controlled via VNC (Virtual Network Computing) remote access from a laptop or tablet. If you want hands on, the fascia features a touch-sensitive front panel and dial which allows access to inputs and setup parameters.

Playback provision includes LPCM, Dolby TrueHD and DTS-HD Master Audio, plus DTS: Neo and Dolby Pro-Logic post-processing. New for 2014, Datasat is offering an upgraded version of the RS20i with an Auro-3D audio decoding card. Auro-3D allows for a stacked 5.1 speaker configuration giving additional height steerage, along with a Voice of God ceiling speaker (yes, that will mean room remodelling). Alternatively, users can opt for a 9.1-channel layout comprising a standard multichannel configuration bolstered by height speakers front and rear. There's no native Auro-3D encoded content available at present (although the company insists that compatible Blu-rays are on the cards), but owners will still be able to upscale existing multichannel soundtracks to their chosen speaker configuration.

System software has to be manually updated over a network connection, as it doesn't auto notify. Helpfully there's also a USB Save and Restore function. This allows all the setup data to be backed up to a memory stick. This is essential during installation as you can preserve a known, good configuration before going on to experiment with other recipes. Your friendly Datasat installer can actually block you from changing anything via password protection, so be sure to keep him sweet with tea and biscuits during the calibration process.

### Dirac Live room optimisation

As adept as the RS20i is, the true magic happens when the system is tuned using Dirac Live room optimisation software. This is actually separate to the RS20i, and requires the installer to have the Dirac Live





## Connections

### A Room for growth

Expansion slots on the RS20i processor make it ready for future audio developments. Compatibility for the Auro-3D multichannel standard has already been finalised

### B Network control

This rear-mounted Ethernet port isn't for DLNA streaming – it enables system control via a tablet/laptop. Around the front, a USB port enables backup of system settings

### C Getting connected

Unlike big-brand AV receivers, the RS20i only offers four HDMI inputs and a single output

### D On balance

The processor's setup mic uses this balanced input. Onboard parametric EQ is an alternative to a full Dirac Live calibration

### E Two times the power

The RA7300 features double power sockets, necessary to fully drive its 7 x 300W amplifiers



Room Correction suite running on a laptop. The RS20i also offers comprehensive onboard parametric equalisation, but Dirac Live does such an astonishing job you'll not want to use it. Indeed, once Dirac fine-tuned the RS20i, it rocked my listening room with a precision that integrated Audyssey packages can only dream of.

The RS20i is the first home theatre product I've seen able to take advantage of Dirac Live, but it's left me eager for more. Swedish based Dirac Research specialises in DSP wizardry, and developed the Live package for home theatre/hi-fi applications. Let's hope more brands pick up a license.

The software builds a fantastically accurate acoustical model of the listening room and then detects and corrects any deficiencies. This is achieved through multiple microphone measurements, four being the minimum. In a larger room, you

**'This system seems to be able to find detail and power in any scene, no matter how disposable the movie'**

might typically measure nine positions. Beyond that there's little point adding more, as the objective is to create an average.

The only manual intervention required is when setting speaker crossovers and sound pressure level. We handled the latter manually, using a classic Tandy SPL meter and VNC client. The key thing to remember is that when setting SPL you'll need all channels to be equal; the level itself is down to personal preference (we opted for 75dB).

### Pure visceral fun

Fully tuned and ready to go, the RS20i/RA7300 combo delivers breathtaking dynamics, gut-wobbling LFE and truly holographic imaging. The sound mix during the opening mountain race sequence in *Fast and Furious 6* is given almost physical form by this Datasat duo. You can literally feel the gear changes of the racing cars, the exhilarating vehicular roar resonating in the pit of your stomach. Amazingly, this system comes perilously close to mimicking the sonic excitement of a live track event.

When the klaxon-sounding drones in the Tom Cruise actioner *Oblivion* set about blasting the Scav's underground retreat, you'll fear they're actually demolishing the house around you; the soundstage has such scale and slam it's impossible not to grin like an idiot. If you could beam a premium theatre physically into your listening room it would sound just like this.

The Datasat system doesn't just rock on a seismic level, it delivers totally intelligible dialogue without spitch or mumble, regardless what's going on left or right. This level of naturalistic articulation is extremely difficult to achieve. On the debit side, the processor makes a fair old fan noise when up and running. Thankfully all those Watts make the thrum relatively easy to mask. Ideally though, both processor and amp should be squirrelled away in an equipment rack, or projection room, not plonked within earshot.

Subtle atmospherics are also a speciality. The deep cave explorations in Ridley Scott's *Prometheus* suddenly become hyper real, immeasurably heightening the tension. More obvious panned effects don't ping pong from speaker to speaker, but are cohesive and believable. And the deep, taut bass control constantly surprises. The overwrought theatrics of *Battleship* have never made it a demo favourite for me, yet when its frying-pan-in-the-face action is delivered by this Datasat double-act, it almost becomes a thing of wonder. The system seems to be able to find detail and power in any scene, no matter how disposable the movie.

Of course, it's not just high-resolution Blu-ray that sounds superb through the RS20i. The system does a fine job with Dolby Digital 5.1 delivered from a Sky+ HD box. *Rise of the Planet of the Apes* (via Sky Movies) harbours rampant bass, which the system again delivers with frightening enthusiasm and control.

It is also surprisingly adept with two-channel music, spatially placing instruments with an accuracy that would do justice to hi-fi royalty. The staging and tightness of this big combo is revelatory.

### Simply unbeatable

Stupidly huge, ruinously expensive and cursed with gale-force fan noise, the RS20i and RA7300 pre/power combination might seem an odd pairing to eulogise. But make no mistake, this is the most exciting audio offering in home theatre today. In terms of raw power, dynamic attack and image placement it's nigh on unbeatable.

Rivals? There are a few. In terms of brawn, the Datasat duo would duke it out with heavyweight amplification from the likes of Krell, Chord Electronics *et al.* When it comes to functionality, a close competitor is probably Yamaha's pre/power combo, the CX-A5000 and MX-A5000. However in a cinematic shoot-out, Datasat has considerably more sonic firepower than that affordable offering.

Let loose in its natural environment, a dedicated home theatre room with all the trimmings, those opening negatives become irrelevant. This system, fine-tuned with Dirac Live calibration, represents the pinnacle of home cinema audio excitement. Once heard, it's never forgotten ■

### ON THE MENU



→ The front panel of the RS20i is touch-sensitive and allows access to all the main inputs and setup menus. Alternate ways of controlling the system include a VNC client on a tablet or dedicated home system control – there's no bundled zapper

### SPECIFICATIONS

#### RS20i

**DOLBY TRUEHD:** Yes. Plus Pro-Logic IIz  
**DTS-HD MASTER AUDIO:** Yes. Plus DTS Neo: 6  
**THX:** No  
**MULTICHANNEL INPUT:** No  
**MULTIROOM:** No  
**AV INPUTS:** 3 x digital audio (2 x optical and 1 x coaxial; 2 x stereo phono)  
**HDMI:** Yes. 5 x inputs, 1 x output  
**VIDEO UPSCALING:** No  
**COMPONENT VIDEO:** No  
**DIMENSIONS:** 142(h) x 442(w) x 447(d)mm  
**WEIGHT:** 12.2kg  
**ALSO FEATURING:** VNC remote access control; serial interface; Dirac Live compatible; 20 user-defined configurable input selections; third octave EQ; parametric EQ; bass and treble controls; Ethernet; adjustable Hi/Low/Bandpass active crossovers

#### RA7300

**POWER OUTPUT (CLAIMED):** 7 x 300W (into eight ohms); 7 x 450W (into four ohms)  
**CONNECTIONS:** XLR balanced inputs; DB25 balanced inputs; DB25 passthrough; binding posts for seven channels; 12V trigger  
**DIMENSIONS:** 222(h) x 431(w) x 533(d)mm  
**WEIGHT:** 56kg  
**ALSO FEATURING:** Dual AC inputs; fully-balanced thermal track design

### HCC VERDICT

#### Datasat RS20i/RA7300

→ £18,600/£14,400 → [www.datasatdigital.com](http://www.datasatdigital.com)  
→ Tel: 01189 349 199

**HIGHS:** Awe-inspiring articulation and spatial imaging; huge power reserves; can be optimised for any viewing room with Dirac Live calibration

**LOWS:** These dedicated home theatre components are a pro install; power amp is unfeasibly heavy; lacks the basic niceties found on conventional AVRs; rowdy processor fan noise

Performance ★★★★★  
Design ★★★★★  
Features ★★★★★  
Overall ★★★★★





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CES 2014

# HOME CINEMA GETS THE BENDS...



The 2014 International CES saw the Korean TV giants battling it out with curved and flexible screens, Sony unleashing an extensive 4K range and Panasonic beginning life beyond plasma.

**Steve May** and **Mark Craven** report on all this, and more >



### 4K is here to stay – in all sizes...

Dispelling any illusions that 4K was a 3D-style flash in the pan, 2160p resolution displays were as crisp and prevalent at CES as the Nevada air. The key difference this year being that connection standards and functionality were much more in keeping with tomorrow's TV requirements.

Panasonic used CES to unveil its AX800 4K screens, but said that UK models would not be confirmed until a European trade event in the Spring. Most importantly, the brand told *HCC* that it was planning to make a big splash with some UK-centric introductions, so watch this space. It also made bold claims that it could now match plasma image quality using LED technology; engineers favourably compared a reference-grade 4K prototype, with a full-array backlight, against its celebrated ZT60 plasma TV and first-gen W600 4K set.

Sony previewed an impressive lineup: the high-end X95 at 85in, plus the X9 (55/65/79in) and X85 models (49/55/65in). The X9 screens sport a distinctive 'wedge' design, once again with front-facing Magnetic Fluid speakers for better audio performance. All of Sony's new 4K models can be partnered with an optional wireless sub for improved slam.

LG expanded its 4K stable with three lines, dubbed UB9800, UB9500, and UB8500. As with Sony, screen sizes start at 49in, but stretch up to 98in. While the benefit of a resolution hike at this smaller size is questionable, the HDMI 2.0 set will support high frame-rate 4K broadcasting, at which point there should be some form of visual benefit. Samsung also confirmed three 4K TV ranges: the on-going flat S9 line which peaks with a giant 110in model that may or may not see a European release, plus new curved sets available in 55in, 65in and 78in flavours, and their flatscreen equivalents.



Focal's Dimension soundbar and Dimension Sub – partners in TV audio crime

### Soundbars are soooo 2013...

It's less than two years since Bose launched its Solo speaker, but the 'soundbase' or 'sound plinth' market is already in rude health, and CES witnessed more brands joining the fray to offer soundbar alternatives that promise meatier audio.

Sony, playing catchup in this arena to the likes of Panasonic and Onkyo, introduced its HT-XT1. Designed to sit under TVs up to 50in, it offers 2.1-channel amplification (claimed at 170W), with two subwoofers providing the low-end grunt. In terms of features it's a cut above much of the competition – Bluetooth streaming (including NFC support) is joined by 3-in, 1-out HDMI switching and Dolby TrueHD and DTS-HD decoding. Design-wise it's a black slab, made prettier by the front display and chunky aluminium feet.

Samsung and LG also unveiled models, the former with the 4.2-channel HW-H610 (dubbed a Sound Stand) and the latter following up its initial 'sound plate' from last year with one that incorporates a 3D Blu-ray player and Smart TV functionality, and is supplied with a wireless subwoofer.

Yet the highlight of the soundbase sideshow, for audiophiles at least, will be the product launch from French brand Focal. It's new Dimension soundbar is just that – a traditional long-form multi-driver speaker that can be wall-mounted or placed on a table top – but it can be partnered with the Dimension Sub, an ultra-flat woofer that accommodates your TV. Aesthetically it's a neat solution, but not for those on tight budgets. Focal revealed a US price of \$1,700 for the duo, so expect UK pricing to be similarly high-end.





### Smart TV platforms are really getting Smart

While TVs at CES largely veered between the outrageous and unaffordable, there were big advances in Smart TV interfaces that won't come with any great price premiums for the rest of us when they appear in UK stores in a few months time.

Panasonic evolved its My Home Screen platform into the Life+Screen, with a new landing page that offers users a sleek-looking smorgasbord of curated content. The system can learn viewing preferences, notably via a Star button on the handset of higher-end models. Like a show? Give it a Star. Sony also announced that it was revamping its screens with a One-Flick UI, which taps into how we thumb around our smartphones and includes the option to overlay a Twitter stream onto what you're watching – the sort of idea that sounds good until you see it in practice.

Samsung is leaving its UI largely unchanged for 2014, although its latest Quad Core Plus TV processor will offer instant-on picture viewing.

A new Multi-Link feature also allows screens to feature multiple live apps simultaneously.

Philips took a different tack, revealing that it will introduce Android-powered TVs this Summer. By partnering with Google's Play Store, the TV maker theoretically has access to a huge variety of apps. What's more, the Quad Core-powered TVs will also be able to run Android games, which makes for a uniquely compelling proposition.

Yet the most radical UI unveiled at CES came from LG, which finally took the wraps off its webOS TVs. Acquired from Hewlett Packard barely 12 months ago, webOS is dramatically different from any rival portal. Highly graphical, it seamlessly integrates all sources, be they broadcast, internet streaming or local network, into a simple tabbed menu. Designed to be used with its latest Magic remote controller, the approach is surprisingly fresh and fun to use. 'This is Smart TV made simple again,' enthused commercial director Andy Mackay.

## CES BITS 'N' PIECES

More tech news from the Vegas showfloor

### Sony goes barking mad for action cams



Sony introduced a new action-cam at CES, the HDR-AS100VR. Features include a high frame-rate video recording mode (for HD slow-mo) and premium optics allied to a BIONZ X image processing engine. However, it was the optional \$50 dog mount for puppy POV clips that garnered the most interest (pictured attached to a stuffed toy). Other new action-cam accessories for the HDR-AS100VR include a surf board mount, floating device and adhesive mounting pack.

### Budget 4K TVs do exist!

Australian telly brand Kogan raised a few eyebrows with the announcement of a 55in 4K TV with a price tag of just AUS \$1,000, which our economics department informs us is around £550. It even features a Smart interface driven by Android 4.2. 'CES shouldn't be just about technology that the average person will never see or could never afford,' said CEO Ruslan Kogan.

### Bay bails out

*Transformers* director Michael Bay was employed by Samsung to gush lovingly about its flagship curved TV at its press conference – but an issue with the teleprompter led to the Hollywood titan bumbling his lines and exiting the stage saying 'I'm sorry' after less than 90 seconds. Which is probably not what the Korean corp had in mind when it booked him.



Panasonic's Life+ Screen builds upon last year's My Home Screen interface



## LG and Samsung get ahead of the curve

4K was always going to be big at CES, but the wave of curved screens which broke cover surprised us. Virtually all major brands (with the pointed exception of Sony), and a few minor ones, presented some sort of curved proposition. And while OLED was once hyped as the most curvable screen technology, now LED TVs seem equally malleable.

The biggest proponents of horseshoe screens were Samsung and LG; the two bitter rivals built on their 2013 IFA predilection for the bends with a bewildering range of retail models and prototypes. Samsung confirmed 55in, 65in and 78in sizes for its new curved U8500 series, as well as offering a 105in 21:9 teaser. The 'Scope ratio gives a pixel count of 5,120 x 2,160 (aka 5K); there's no content in this format, but Samsung suggests viewers might watch 16:9 4K, with apps or POP channels filling out the screen area. Image quality looked excellent. The very widescreen nature of the screen combined with the curve to actually make some sort of visual sense, but there's no release date planned. LG, however, insisted its own 105in 21:9 panel would definitely launch somewhere later this year.

The most dramatic innovation at CES was the flexible curved screen. Both LG and Samsung presented proto-panels (OLED and LED LCD respectively) which allow viewers to alter the level of curvature via remote control. While the engineering solutions differed somewhat the end result was much the same. What was not forthcoming was any coherent reason why this feature might be worth having.



The rear of LG's flexible screen shows the engineering at work



## Blu-ray treads water

With 4K content a hot CES topic, 2014 would've been the perfect time for an announcement from the Blu-ray Disc Association of a new disc standard. Unfortunately that didn't happen (as we reported in the last issue, we're told the behind-the-scenes situation is 'chaos'), so new BD player launches were all resolutely Full HD (give or take a few upscaling chips).

Panasonic outed a trio of affordable spinners, including the Miracast/Wi-Fi/Smart-enabled BDT-360, and Sony had a quartet of decks on show, all promising to consign tardy load times to history courtesy of a Super Quick Start function, while in its suite in the Venetian hotel, German marque T+A unveiled the most eye-catching BD product. Its £3,000 CARUSO Blu, although described as an 'all-in-one complete stereo system', offers Blu-ray playback and an HDMI output as well as 'net radio, USB/network streaming, Bluetooth and in-built active speakers. Styling and build quality impress.

T+A's CARUSO Blu: a Blu-ray player/audio system in one



The BDT-360 is Panasonic's latest Smart BD spinner



Samsung's 21:9 curved screen looks stunning even without the help of a 'spokesmodel'



### Glasses-free 3D undergoes renaissance

The explosion of 4K panels led to a resurgence of glasses-free 3D screens at CES. While still presented in prototype form, there's no doubt that the technology is more refined than when first shown by Toshiba on its ZL2 screen – at times it even appeared watchable. The big advance this year is that the number of viewing zones has increased, although if you stray from a prime slot the dimensional image still undulates.

Samsung's auto-3D demo ran on a 4K 55in panel, with footage largely consisting of food being lobbed out of the foreground. Stand in the right spot and the 3D effect was undeniable, yet there's something perverse about taking an ultra hi-def screen, reducing

the perceived resolution to 720p and then locking the viewer into a single viewing position simply to recreate a visual effect akin to that seen on lenticular greetings cards.

More remarkably, Sharp demonstrated an 85in 8K glasses-free 3D display, utilising Dolby 3D multiview conversion technology (actually a joint development between Dolby and Philips). Senior Sharp bods heralded it as the 'future of home entertainment'. It's not, of course, but it is interesting.

Nearby, Chinese brand Changhong demoed Dolby 3D on a 4K panel, with footage from *Life of Pi* and *Avatar*. The effect was refreshingly smooth, but didn't compare to the natural dimensional clarity of 2D 4K.

### Netflix finds fans

Arguably the most significant 4K development at CES was the announcement of a 4K streaming service by Netflix, which will debut on incoming screens from all major vendors this year.

The 4K stream will only be available on a severely limited amount of content to begin with, starting with *House of Cards: Season 2*, but will apparently ramp up quickly as the company actively acquires movies and new shows in the format.

Netflix 4K will use the HEVC H.265 codec, a natural upgrade from the H.264 it uses currently. Significantly, it will only work on 4K TVs which have an HEVC H.265 decoder. While this seems to be a standard feature on incoming models, the service won't be available on any first-generation 4K TVs released in 2013. Netflix executives told HCC that they didn't envisage its 4K service being offered on any standalone devices in the short term, either.

You'll need a good broadband connection speed to enjoy the 3,840 x 2,160 resolution stream, ideally in excess of 15.6mbps. HCC had a chance to look at Netflix 4K running off-site and was suitably impressed by the crispness of its images. The 4K content drought finally looks to be coming to an end...

### Cards: Season 2

3 NR 2m ULTRA HD 4K 5.1  
The pinnacle of power but his  
ates more powerful enemies and  
hance that his dark secrets will

NETFLIX

Netflix will debut 4K streaming with the second season of *House of Cards* later this year

HOUSE of CARDS





Panasonic's Video Wave OLED wall is designed for business applications

## 4K Curved OLED



### OLED falls off radar

Once talked about as the next big thing, OLED was noticeable this year by its absence. Only LG stayed loyal to the cause, debuting curved 4K OLED screens at 55in, 65in and 77in sizes. First impressions are that these new 4K OLED panels look absolutely gorgeous, with dense blacks and characteristically vibrant hues.

Samsung all but turned its back on the tech, offering no new products. The brand's Visual Display Business executive vice president HS Kim cites ongoing manufacturing challenges for the strategic shift, suggesting that OLED TV is still years away from being a practical proposition.



Samsung turns its back on OLED...

Panasonic was more upbeat, telling us that it's making progress with its proprietary OLED RGB screen printing technology. It showcased an undulating OLED wall comprising both concave and convex panels. Expect this to hit the digital signage market before your living room.

### High-end audio is alive and kicking

Away from the main show, the suites of the Venetian hotel are where audio brands unveil kit in a more refined, less chaotic atmosphere. Here, Naim Audio and Chord Electronics launched striking new products at either end of the spectrum.

Naim's new Statement range deserves its moniker – the price tag for the NAP-S1 power amp is around £125,000. A mono block design, rated at 746W into 8 ohms, the company says the amp has been in active development for three years and was designed 'to supply the performance and dynamics that Naim's customers expect.' Partner a pair of them with the NAC-S1 pre-amp and you're in business – for two-channel at least.

Chord Electronics, meanwhile, premiered a portable headphone amp/DAC (dubbed Hugo, left) that offers hi-res support including DXD, Bluetooth/USB connectivity and a 14-hour battery. Looks ideal for commuters with an audiophile bent... ■



## CES BITS 'N' PIECES

Still more tech news from the Vegas showfloor

### LG keeps plasma going

We knew that for the first time in seemingly forever, Panasonic's CES stand would not be dominated by cutting-edge plasmas, but it still stung a bit to see its monster booth dominated by LED sets and nothing else.

More worryingly for PDP fans, of the two other UK plasma players, Samsung and LG, only the latter arrived in Las Vegas with anything to show, offering a quartet of models in sizes from 42in to 60in – yet the company gave them little fanfare. Samsung, however, is currently retaining its 2013 PDP lineup (including the flagship F8500 model) and is non-committal on whether that range will be its last. Odds of plasma being dead and buried by 2015? Very short indeed...

### Epson goes goggle-eyed



Those desperate to watch movies on the go will like Epson's Moverio BT200 'smart glasses', which can beam content (including apps) right into your eyeballs at, says the company, a perceived size of 320in. Available in the Spring for around £650, they include a front-facing camera, GPS, compass, 8GB of internal memory and come with a tethered control pad.

### Sanus focuses on safety

Wall-mounts are never likely to prove much of a showstopper, but Sanus gained attention with its range that can accommodate screens up to 90in – and data from a US consumer safety survey that reports a child dies every three weeks from a TV 'tipping over.' Visit [tvsafety.org](http://tvsafety.org) for more statistics that'll soon have you reaching for your screwdriver.



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# THE FINAL FRONTIER OF SOUND

Alfonso Cuarón's space disaster *Gravity* made 3D cool again, but it also took movie audio to another level. [Steve May](#) talks to the man responsible: sound designer extraordinaire Glenn Freemantle







Gravity sound designer Glenn Freemantle – a big fan of Dolby Atmos

IN SPACE NO one can hear you scream. This kinda makes it difficult to construct an immersive, thrilling yet believable space-locked movie soundtrack – but that's exactly what multi-award-winning sound designer and editor Glenn Freemantle has managed with Alfonso Cuarón's *Gravity*.

The breakout theatrical hit of 2013 is not just a groundbreaking 3D extravaganza, but also one of the most inventive and rewarding audio experiences in modern cinema. But just how did Freemantle develop the sound design for the movie? To learn more, *HCC* met up with him following a London screening of the movie in Dolby Atmos.

Fittingly, the Dolby Atmos system is as futuristic as cinema sound gets. It allows sound designers to marry conventional channel-based audio editing with more versatile and dynamic audio object-based mixing; when every element within a scene is effectively an individual audio object, effects can be placed spatially at any point within a 360-degree soundstage. This creates a transformational difference when it comes to crafting a soundtrack, and makes for a very different listening experience. By way of comparison, a conventional channel mix, as heard in most local multiplexes and on home theatre systems, locks audio to specific channels.

Small wonder the technology has often been called 3D for your ears. The number of A-list movies with immersive Atmos soundtracks is growing steadily and includes upcoming blockbusters *Dawn of the Planet of The Apes*, *X-Men: Days of Future Past* and *300: Rise of an Empire*.



Dolby's UK headquarters has an Atmos-equipped screening room



## So, where is Atmos?

Big in the US, but growing slowly in the UK



Dolby's innovative sound format is certainly building up a head of steam in terms of content – recent releases have included *The Hunger Games: Catching Fire*, *Elysium*, *The Wolverine* and *Pacific Rim* – but its presence in the UK is hindered by a current paucity of cinemas equipped with Atmos arrays.

It made its debut in the cavernous Screen One of the Empire Leicester Square, but last Autumn this theatre was mothballed in preparation for a revamp as two screens – one IMAX, one Dolby Atmos – and at the time of writing has yet to re-open. The only other London-based Atmos cinema is the Olympic Studios in Barnes.

Outside of the capital, Atmos screens can be found in Vue cinemas in Gateshead, Glasgow and Cramlington. The Dolby website also lists the Forum in Bridlington, but *HCC* was told by the cinema itself that it doesn't have it. So our advice is to always check before you leave your own movie den!

**Gravity stars Sandra Bullock, George Clooney, and some stunning VFX**

While Dolby Atmos doesn't exist in any domestic incarnation just yet (*HCC* is aware of tentative discussions currently taking place about a consumer iteration), it can be beneficial in terms of pushing the overall sonic envelope. Indeed, the typical production workflow will see a conventional 5.1 or 7.1 mix derived from an Atmos original.

However Freemantle reveals that's not what happened with *Gravity*. The Atmos sound design came after the main theatrical mix was done and dusted, he says. But he was hoping to produce an Atmos mix from the outset.

'I was lucky enough to be involved in some of the very early discussions about Atmos, when Dolby was first beginning to develop the technology,' he told us. 'I've always found it very exciting. So when there was an opportunity, I let them know about the *Gravity* project I was working on and told them it had Dolby Atmos written all over it.'

### Sound not of this Earth

*Gravity* is Freemantle's second Dolby Atmos project to see the light of day (the first being Danny Boyle's *Trance*), yet he became involved back in December 2010. 'Alfonso rang me up and asked if I want to get involved. He told me the movie hadn't been shot yet but he wanted to put a concept together to show the studio.'

Freemantle was hooked on the premise from lift-off. 'Literally at that point, and at that meeting, we came up with the concept of how we were going to do the sound. It was all going to be about vibration and the sense of touch; the viewer would experience weightlessness through Sandra [Bullock]'s character, from her heartbeat to her tinnitus. That was the way we felt we could make the film much more immersive.'

Glenn says the aim was to make viewers feel as though they were in the film. Symbolic of the spinning, weightless state of its protagonists, the sound design doesn't stop moving from the beginning of the movie to the end.

The sound design in *Gravity* is literally about space, Freemantle confides. 'Everything is always moving, and while we can create that design effect in a 7.1-channel mix, there isn't a system out there that offers the same creative freedom as Dolby Atmos. With Atmos we could take our concept to a new level, and really do what we want with the

film for the first time. And that's what I hope we've achieved. We set about using sound to create an emotive content to pull you further into the story, to join Sandra's journey. That's taken to the logical extreme when at one point you share her POV from an audio-visual sense.'

Freemantle is a long-time creative collaborator of Danny Boyle, and has worked on a number of Boyle hits including the sonically sensational *Slumdog Millionaire*. He likens *Gravity* to the task he faced when constructing the audio mix for Boyle's gruelling drama *127 Hours*. 'When we started on the *Gravity* soundtrack we were just working with pre-visualisations, nothing had actually been shot,' he recalls. 'The entire soundtrack is actually bespoke... we created every sound you hear in the movie. It's much like what we did on *127 Hours*. Ninety-eight per cent of that movie was ADR [Automated Dialogue Replacement]; all the original recorded sound on *127 Hours* was thrown away, so we had to find a way to completely recreate the sound of the canyon.'

Freemantle reveals he approaches movie sound design in terms of layers. 'When we begin to conceptualise the soundtrack of a film I like to think of elements individually – work out how one thing sounds at a time. If you try to imagine the sound of a film in its entirety right at the start it becomes a muddle, at least in my mind.'

The *Gravity* audio mix bristles with innovation. Infrasound is used extensively, but not in a traditional way. 'Rather than employ it for big explosions in the stereotypical way, we use it more organically,' says the British audio guru. 'It literally helps you feel things.' The sound designer says that of all the aural effects created for the movie, it was the subtle tactile sound of the costumes that still gives him the greatest satisfaction. 'I think I'm most happy with the noises you hear when Sandra touches things through her gloves.'

Of course, *Gravity* isn't just notable for its stunning soundtrack and amazing visual effects, it's also been credited with restoring consumer faith in 3D. Even vehement critics of stereoscopy grudgingly admit that the film's visual appeal is boosted by its use of depth. So did 3D influence the way Freemantle approached his sound design? 'Absolutely!' he declares. 'Knowing the movie would be seen in 3D fundamentally changed the way we mixed and positioned sound.' However, the designer admits that during the process he only ever saw the film flat. 'But you can see where the big 3D moments are, so that's not a problem,' he adds.

So what does a trend-setting movie sound designer listen to at home when he's not busy redefining the sonics of cinema? Is a soundbar the order of the day? Hardly. Glenn confesses he enjoys a full-blown 7.1 home theatre. 'I've just installed some new Harman Kardon equipment,' he enthuses. 'Obviously I need it for work, but it's great for sport as well...' ■

**Gravity is available to buy from March 3 on Blu-ray, 3D Blu-ray and DVD courtesy of Warner Home Video**





# Award Winning Home Cinemas.

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# Top-storey cinema

**Mark Craven** reports on an attic-room conversion that dazzles with smart décor and some serious AV separates

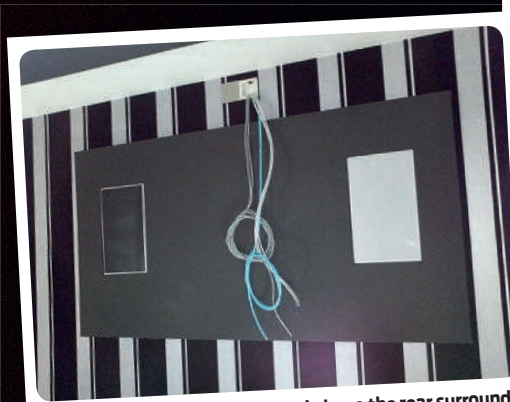
## KIT CHECKLIST

**BOWERS & WILKINS:** 7 x CWM8.5 two-way in-wall speakers  
**BOWERS & WILKINS:** 2 x DB1 subwoofers  
**ROTEL:** RSX1562 seven-channel AV receiver; additional power amps for transducers  
**SCREEN RESEARCH:** THX/ISF acoustically transparent fixed screen  
**SIM2:** Nero 3D-2 projector  
**LUTRON:** QS whole-house lighting control system  
**MIDDLE ATLANTIC:** AV equipment rack  
**FURMAN:** Power conditioners  
**CRESTRON:** CP3-3 Series processor  
**CRESTRON:** TPMC-4SMD-FD in-wall touchpanel  
**CRESTRON:** iPad app  
**KALEIDESCAPE:** M700 player and 1U server  
**CLARK SYNTHESIS:** 4 x TST429 tactile transducers

## Cinema Paradiso

A director returns home after 30 years, reminiscing about his first love and the man who introduced him to film.





The projector was wall-mounted above the rear surround speakers, with all cabling run in-wall for a slick, uncluttered finish



Bowers & Wilkins' CWM8.5s are used for all seven channels, mounted with back boxes and finished with white grilles

**AN ATTIC IS** an obvious place for any ambitious cinema fan to install a dedicated system. Firstly, it's probably not being used for much beyond storing boxes of junk. Secondly, it's not likely to get much (if any) walkthrough traffic – you can retire to the loft and relax with a movie in peace. The setup featured here has been achieved by custom install professionals, and the price tag, we're told, is commensurate with the level of hardware, control and acoustic treatments employed. But even for those with limited budgets it's certainly an inspirational makeover that could give you some ideas for your own project.

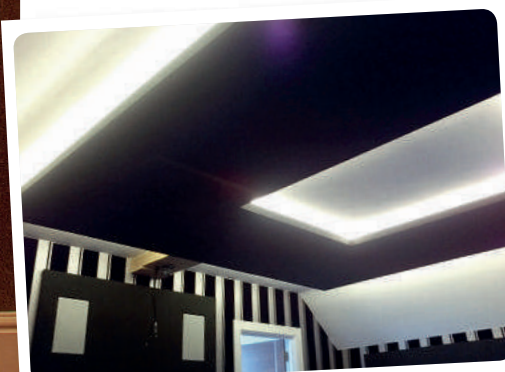
### A touch of class

The theatre was put into place as part of a whole house project using Crestron automation and Lutron lighting control. As such, it too benefits from natty system control and dimmable illumination, managed either from the owner's iPad (via Crestron's app) or an in-wall Crestron TPMC-4SMD-FD touchpanel. Lighting, as the pictures show, is a key part of the room's allure, with a ceiling installation preferred to visible down-lighters or wall lamps.

Installer Imagine This admits that as an attic conversion the project threw up the usual issues in terms of room fitout and design. To aid with room isolation (there's actually an adjoining space used as an office), acoustic >



A Kaleidescape system, including the M700 Disc Vault, provides movie content



The lighting system, overseen by Lutron hardware, uses the ceiling installation to illuminate the room without any bulbs on show





Diffusion/absorption panels are employed to improve the room's acoustics

plasterboard and Green Glue was employed. On top of this, BAD panels were sourced from acoustic specialist RPG to provide diffusion and absorption.

Tight floorspace required the speaker system to be fitted in-wall. Here, Bowers & Wilkins' recent CWM8.5 speakers (two-way designs with a 1in Nautilus tweeter and a 7in midbass driver) were used all around the seven-channel soundstage, with the front trio built into a baffle wall. These aren't visible, as the wall also houses the Screen Research acoustically transparent screen, a rigid-frame model from the brand's Supreme 3 line.



The custom-designed seating platform – carpeted to match the rest of the room – provides a snug fit for the two cinema loungers

The speakers are all fitted with back boxes, and are joined by a pair of HCC award-winning B&W DB1 subwoofers. These premium bass-shifters each pack a 1,000W amplifier unit and twin 12in drivers. Driving the speakers is Rotel's RSX1562 receiver, a seven-channel separate that offers a claimed 100W-per-channel. The brand's advanced parametric EQ proved vital in carrying out an HAA (Home Acoustics Alliance) calibration.

A SIM2 Nero 3D-2 is fixed on the rear wall, just above and between the rear surround speakers. Content for the setup is beamed in from a Kaleidescape system that combines an M700 Disc Vault with 1U server – in conjunction with the iPad control, this makes it as easy to use as cinema rooms come.

The finishing touch is the seating array. A duo of cinema sofas, mounted on a custom-made platform, provides accommodation for plenty of guests, and there's a surprise in the form of tactile transducers from Clark Synthesis, which add an extra dimension to the movie-watching experience ■



Far left: The room uses two of Bowers & Wilkins' reference-grade DB1 subwoofers

Left: Four tactile transducers, rated down to 5Hz, are sure to impress rumble junkies



# Serious Home Cinema



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# Home cinema

**Which sort of visual system do you go for? Projector and screen, or plasma, LCD or LED TV? 3D or non-3D?**

**Choosing a home cinema system is a potential minefield that must be negotiated with great care or safely avoided by letting experts guide you. If you want to end up with a system that, as a minimum, meets your expectations in terms of picture and sound quality, reading magazine product reviews and choosing the recommendations, five-star favourites or best buys can only ever be part of the answer at best. Looking for the cheapest price and having a system delivered to your door, even with a 'knowledgeable' friend to help set it up, is a well-trodden path to disappointment.**

There is a bewildering choice of components on the market today and also different ways in which components can be installed and connected together. Which sort of visual system do you go for? Projector and screen, or plasma, LCD or LED TV? 3D or non-3D? Full 1080p capability is now the only sensible choice but the appropriate source components, such as a Blu-ray player, need to be part of the equation.

The sound performance of a system is also hugely important, even more so if you will be listening to music, or music DVD's, through the same system. If so, you need an amp that approaches the performance

of a decent 2-channel hi-fi amp, which is not that easy to find. Having an amp with the right inputs for the best connectivity is essential but you will also need to decide on a 5.1 or 7.1 speaker system, passive or active sub and, crucially, where they will be sited for the best results. In short, it's complicated and very fertile ground for getting it wrong.

## Achieving potential

To select a system, you could choose a collection of 'Best Buy' components in the hope that they will be a great combination. Maybe, but probably not. You could buy a pre-packaged all-in-one system from one manufacturer. This is almost certainly not the best route either, as you will miss out on enormous potential. From informal surveys conducted, it appears highly likely that the majority of home cinema systems

selected and installed on a DIY basis (that is without professional input) are performing at way below their optimum level. To compound matters, most are also ill-matched to the room in which they are installed and are, in reality, the wrong system. Without considerable knowledge or experience, high quality home cinema is not a suitable DIY activity. Our aim must be to buy a home cinema system that will provide an excellent picture quality plus an audio delivery that will match, or even better, the commercial cinema experience. It must be exciting, reliable and deliver true value for money.

“ Home cinema  
so good you'll believe  
you're there! ”



Selecting and installing home cinema on a DIY basis may leave the system performing at way below its optimum level.

# Confused ?



## What and Where to buy

To ensure a home cinema system is right for you, where do you start? Here's an important tip ...don't start with WHAT, start with WHERE. There's only one way to give yourself the best chance of getting it right first time, and that's through a specialist AV dealer. It's possible you have preconceived ideas that put you off visiting one. Although you would welcome the advice and guidance, you don't know the technical jargon. You don't want to be talked down to. Your friend has said they only sell expensive gear and they're not interested if you don't have a big budget. They're expensive. These are just myths.

Most specialist AV dealers are running their business because, above all, home cinema is their hobby. They spend a large portion of their time comparing systems to get the best possible results. They know the component combinations which don't gel together and, conversely, they know the combinations which give the best performance within a given price range. Very importantly, they know how to get a system working to its optimum. But they all also know the system must suit you.

## Buying or being sold to

There are dealers around, web based or otherwise, who will sell you anything you are willing to pay for. They may be a bit cheaper but that's all they offer. Now there's a carefully selected group of long-established specialist dealers who are totally committed to putting the customer first. Their idea of 'selling' is to discuss your requirements, offer their advice, give you the best options, then play the systems for you and allow you to be the judge. You'll probably be surprised and, almost certainly, relieved to discover how easy it is to see and hear the differences between components and between systems. You'll be able to make a clear and informed decision about what to buy.

The story doesn't end there. These shops won't abandon you once you've put your hand in your pocket. They won't leave you to set up the system you've selected as best you can. They'll install it in your home, make sure it performs to its best, and ensure you're entirely happy with the way it works. Why? Because a high proportion of these dealers' custom comes through people who have bought from them before, either directly or by recommendation. It's vital to them to get it right for you.

## Getting the best deal

Unless you've got money to burn, you'll be living with your new system for years. Most of these dealers offer much longer equipment guarantees than provided by the manufacturer, a very worthwhile benefit, but it also makes it in the dealer's interest to ensure high build quality and reliability. Maybe you could save a few pounds by buying piecemeal but you'll lose out on the overall package. As far as the dealers are concerned, they believe that taking care of their customers properly is a far better way of doing business than just handing over boxes.



**The Dealers listed below have been selected because they are known to do an excellent job in guiding customers towards home cinema systems that will provide years of superlative performance and total satisfaction.**

## Our Top20 AV shops in the country

### SOUTH

#### Chelmsford

##### RAYLEIGH HI-FI SOUND & VISION

216 Moulsham Street.  
01245 265245  
www.rayleighhifi.co.uk

#### Maidenhead

##### AUDIO VENUE

36 Queen Street.  
01628 633995  
www.audiovenue.co.uk

#### Norwich

##### MARTINS HI-FI

85-91 Ber Street.  
01603 627134  
www.martinhifi.co.uk

#### Rayleigh, Essex

##### RAYLEIGH HI-FI SOUND & VISION

44a High Street.  
01268 779762

##### CUSTOM INSTALL DEPT.

01268 776932  
www.rayleighhifi.co.uk

#### Southend-on-Sea

##### RAYLEIGH HI-FI SOUND & VISION

132/4 London Road.  
01702 435255  
www.rayleighhifi.co.uk

### LONDON

#### Ealing

##### AUDIO VENUE

27 Bond Street.  
020 8567 8703  
www.audiovenue.co.uk

### N1 GRAHAMS HI-FI

190a New North Road.  
020 7226 5500  
www.grahams.co.uk

### SW11 ORANGES & LEMONS

61-63 Webbs Road, Battersea.  
020 7924 2040  
www.oandlhifi.co.uk

### MIDLANDS

#### Coventry

##### FRANK HARVEY HI-FI EXCELLENCE

163 Spon Street.  
024 7652 5200  
www.frankharvey.co.uk

#### Nottingham

##### CASTLE SOUND & VISION

48/50 Maid Marian Way.  
0115 9584404  
www.castlesoundvision.com

### NORTH

#### York

##### SOUND ORGANISATION

2 Gillygate.  
01904 627108  
www.soundorg.co.uk



The majority of the above dealers are members of one or both of the major trade organisations, BADA or CEDIA.

[www.top20uk.info](http://www.top20uk.info)



## STAR QUALITIES

VALUE FOR MONEY ..... ★★★★★  
SERVICE ..... ★★★★★  
FACILITIES ..... ★★★★★  
VERDICT ..... ★★★★★

# ...Talk to the experts



theguardian

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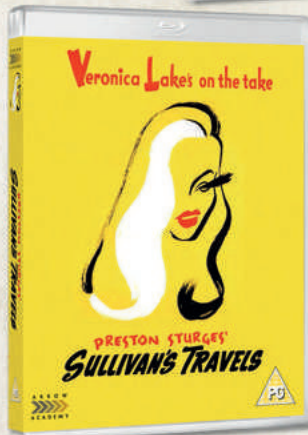
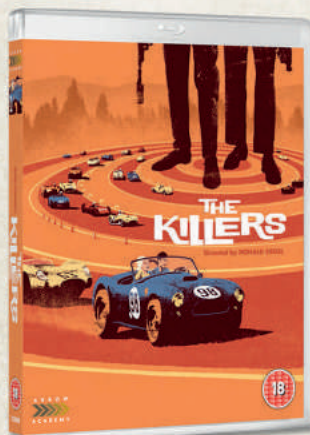
BLOODY  
DISGUSTING  
2013



CINE  
APOCALYPSE  
2013

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New and forthcoming releases from Arrow Video and Arrow Academy, appearing in newly remastered discs and a stunning 2K restoration for *White of the Eye*. All releases contain brand new extras and comprehensive collector's booklets!

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# REVIEWS

→ **HARDWARE HIGHLIGHTS** TOSHIBA 84in 4K screen with a £7,000 tag **QUAD** 5.1 bookshelf speaker array **ONKYO** 9.2-channel mid-range AV receiver **PIONEER** Soundbar with media streaming talents **REL** Wireless designer subwoofer **SHARP** 90in Full HD 3D TV **KEF** V-Series stereo audio solution **ARCAM** Audiophile AV receiver **BANG & OLUFSEN** WiSA standard active speakers **AND MORE!**

## White lightning



Epson's EH-TW9200W sees the world's biggest projector brand hoping to steal a march on its mid-range rivals. See p52 to see how it fares...

### HCC RATINGS KEY...

Outstanding	★★★★★
Above average	★★★★☆
Acceptable	★★★☆☆
Disappointing	★★☆☆☆
Dire	★☆☆☆☆







# Huge TV, medium price

**John Archer** struggles to get his brain around the idea of an 84in 4K TV that sells for only £7,000

**AN AXE TO GRIND**  
Sequel *Machete Kills* offers more cheap thrills on Blu-ray, p94

**THE RECENT CES** electronics expo in Las Vegas was awash with rumours that the prices of mainstream 4K TVs will halve in 2014. I didn't expect, though, to find these rumours borne out by the very first TV I tested once I'd landed back in the UK. But here I am, staring goggle-eyed at an 84in 4K TV that can be found selling for just £7,000 – less than half the price of any other 84in 4K TV seen to date.

This hi-res groundbreaker is Toshiba's 84L9363DB, and it really does deliver an epic amount of screen for your seven grand. Its size should prove particularly handy, of course, in demonstrating the joys we've already come to associate with 4K.

It's not the most exciting-looking TV around, though, thanks to its slightly perfunctory black surround and a build quality that seems only average – but Toshiba has to hit that £7,000 price ticket somehow, I suppose. There's a sliver of silver metal along the bottom edge, but this doesn't alter my feeling that the 84L9363DB's design is more functional than fancy.

Connectivity is pretty good – to a point. Highlights include four HDMI, two USBs, an SD card slot (I'd love more TVs to have these, considering how many of us own digital cameras and camcorders) and both Ethernet and integrated Wi-Fi options, with the network connections offering DLNA streaming as well as access to Toshiba's Cloud TV online platform. However, unlike the Panasonic L65WT600, the 84L9363DB's HDMI are built to the HDMI 2.0 level required for playback of full-spec 4K sources at any frame rate higher than 30fps. A firmware update will allow the 84L9363DB to play 50/60Hz 4K sources, but only by reducing such source's colour resolution.

## Time to smarten up

The Cloud TV online platform on the 84L9363DB is hit and miss – with the emphasis on the 'miss', sadly. In the hit camp

is a pretty effective content-searching system, a handy app that lets you surf the TV's Electronic Programme Guide (EPG) on your tablet or smartphone, and an engagingly presented Avatar-based recommendations engine. This system doesn't currently track your viewing habits and adjust its recommendations accordingly, but Toshiba claims this feature will go live at some point.

The key problems with the Cloud TV portal are its rather dated-looking presentation, its bold but ultimately ill-conceived use of a big Twitter feed window

**'Toshiba delivers an epic amount of 4K screen for seven grand – it dominates your field of vision'**

in the middle of the main screen, and its lack of content compared with rival online platforms. Key video content services at the time of writing are limited to BBC iPlayer, Netflix, Blinkbox and KnowHow Movies, leaving such big hitters as LoveFilm, the ITV Player, 4OD and Demand 5 absent. You can get these services on external media streamers, of course, but integration would be greatly appreciated.

The 84L9363DB is much more comprehensive where picture adjustments

## AV Info

**PRODUCT:** A strikingly affordable 84in LCD TV with edge LED lighting, 3D playback and, most importantly, a native 4K resolution

**POSITION:** The 84L9363DB is Toshiba's current flagship TV

**PEERS:** LG 84LM960V; Sony KDL-84X9005A

Toshiba's 84in flagship uses its CEVO engine to upscale incoming sources to 4K



are concerned. There's a full colour management system, with white balance and colour temperature fine tuning, plus there are gamma controls and lots of flexibility when it comes to brightness, contrast and noise reduction.

There are a couple of potentially useful adjustments associated with the 84L9363DB's 4K upscaling system, too. Brilliance Restoration seeks to reintroduce the brightness that's removed from sources during the digital compression process, while the Fine Texture tool adjusts the sense of sharpness present in upscaled pictures.

Sharpness is more aggressively affected, though, by Toshiba's Resolution+ processing system. And this works on native 4K material as well as HD/standard-definition! You might think that native 4K sources don't need a sharpness boost, and for the most

**'Colours are radiantly vibrant and heavily saturated, yet they rarely look unbalanced or unrealistic'**

part I'd be inclined to agree with you. But as we'll see in more detail (pun intended) later, the impact of Resolution+ on 4K is surprisingly effective...

The last bit of processing to cover is Toshiba's AMR800 system, which combines a native 100Hz panel design with backlight scanning and frame interpolation to deliver an 800Hz-like effect. I've seen even higher 'motion handling' numbers elsewhere this year, but given that arriving at such figures is something of a dark art anyway, it doesn't necessarily follow that the 84L9363DB won't be able to deliver a motion performance just as satisfying – if not more so – than those of some of the TVs that claim even larger 'motion' numbers.

All of the processing systems in the 84L9363DB are powered by Toshiba's CEVO 4K engine, derived from the brand's much-vaunted Cell PC processing. So hopefully there should be plenty of number-crunching power and speed to help the 84L9363DB go about its 4K business.

### Going native

Firing up my slowly growing selection of native 4K sources (essentially demo reels from a variety of TV brands), I was initially very impressed – especially with that mind-boggling £7,000 price tag taken into account.

For starters, the set delivers a strong sense of the extra detail and pixel density that's the adorable trademark of good-quality 4K. The sheer enormity of the screen doesn't do



any harm in this respect, as you'd expect, but there are other contributing factors too, including relatively little interference from LCD technology's motion blurring problems, and the canny way Resolution+ can add even more sharpness to 4K sources.

I'd only recommend using Resolution+, though, with relatively pristine 4K sources – as in, those largely free of grain or compression noise. If a 4K source is inherently noisy, Resolution+ doesn't manage to take that noise out of the equation when going about its upscaling task, resulting in pictures that can look rather gritty.

In this respect Resolution+ falls short of the more adaptable upscaling engines available on Sony and, especially, Samsung 4K TVs. Still, overall Toshiba's upscaling system works surprisingly well considering the price of the TV it's appearing on.

Another native 4K strength of the 84L9363DB is its colour handling. Colours are radiantly vibrant and heavily saturated, yet they hardly ever look unbalanced or unrealistic – especially after a little calibration work – and there's also extreme subtlety in the rendering of colour blends. In fact, the 84L9363DB gets close to Sony's Triluminos-



inspired 4K colour heroics, and you can't ask for more than that.

### ClearScan not so clear

The longer I watched the 84L9363DB's native 4K performance, though, the more I became aware of a couple of shortcomings. First, while motion blur is well handled, there is some judder in the set's 4K playback, and you do lose a bit of resolution clarity. Calling in Toshiba's ClearScan motion processor reduces this issue considerably, but unfortunately it also introduces problems of its own, such as a cellophane look to really fast motion, and smeary haloes around the edges of large moving objects.

The other issue I noticed during my native 4K testing was that the 84L9363DB is nowhere near as comfortable with dark content as it is bright content, thanks to a hard-to-ignore lack of native contrast.

This manifests itself in a rather grey look to dark scenes that reduces the set's otherwise impressive colour rendition and leads to shadow details getting washed out of the picture. This latter point is particularly unfortunate considering that on a 4K TV detail is supposed to be king.

Thankfully there is a way to greatly improve the 84L9363DB's black level response: activate the set's Adaptive Backlight system. This adjusts the brightness of the edge LED lighting array in response to the content of the pictures being shown, and it delivers something much more like a true black colour from Toshiba's giant, instantly making dark scenes look more satisfying and cinematic. However, the black level boost comes at a cost.

To make this easier to describe, let's switch to an upscaled Blu-ray – *Blade Runner*. During the darkest sequences of Ridley Scott's science-fiction masterpiece, such as the final battle between Deckard and Batty, wherever a bright object appears against a dark backdrop I could clearly see a vertical band of light around the bright objects. These can become quite distracting, especially if you're watching something – such as *Blade Runner* – that's filmed using a 2.35/2.40:1 aspect ratio with the resulting black bars above and below the picture.

Looking at other aspects of the 84L9363DB's upscaled HD picture quality, the news is pretty good. The *Blade Runner* Blu-ray is actually a slightly noisy transfer, yet the upscaling engine handles the noise quite nicely (without Resolution+ in play, at any rate) and leaves you with a noticeably crisper,

more detailed image than you'd get on a mere Full HD screen.

The upscaling boosts colour resolution too, and it delivers its picture upgrade without causing significant unwanted side effects.

Sony and Samsung's upscaling engines are a little more adaptable to different sources, but for the money the 84L9363DB's upscaling engine is more than good enough.

Donning one of the four pairs of passive 3D glasses you get with the Toshiba reveals a mostly impressive 3D performance let down by a single flaw. This flaw is that without using the set's ClearScan processing there's a significant amount of judder during, say, the street party sequence in *Tangled*. Yet if you call in ClearScan you're distracted by conspicuous processing artefacts, most notably a smeary halo around objects crossing the screen.

In the plus camp, the 84L9363DB's 3D pictures are bright, intensely coloured, and mercifully free (so long as your vertical viewing angle is quite shallow) of the crosstalk ghosting noise that's cropped up on Toshiba's active 3D TVs this year. My *Prometheus* and *Tangled* 3D Blu-rays also look richly detailed, with the screen's native 4K resolution combatting the lower pixel density of passive tech to create a better-than-Full HD stereoscopic experience.

### Sonically satisfying

Wrapping up my time with the 84L9363DB with its sound, I found yet another mix of good and bad. The overall quality of the audio is strong, with plenty of power and an open mid-range helping the set achieve potent volume levels and a wide soundstage without distorting or losing cohesion. There's also more bass than is commonly heard from flatscreens.

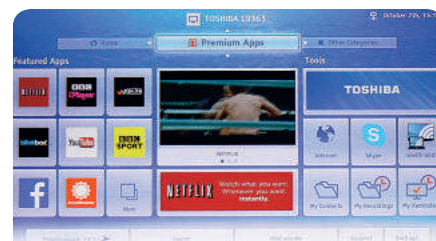
The problem is that the screen is more prone to lip-sync errors – where the sound slides slightly out of kilter with the pictures – than most TVs. Oddly, this intermittent issue seems more likely to happen while using the ClearScan motion processing.

The 84L9363DB is clearly not a perfect TV. In every performance department there's at least one flaw. However, it's impossible to ignore the fact that it offers truly gigantic 4K pictures for less than half the cost of its nearest, similarly-sized rival. In fact it's so much cheaper than other 80in-plus 4K TVs that a more realistic rival is actually Sony's awesome VW500ES 4K projector.

A PJ just doesn't work for everyone's home environment, so if you fancy large 4K thrills for half the money you'd probably have expected, the 84L9363DB pretty much creates a whole new TV category.

It will be interesting to see the price points that rival brands adopt for their forthcoming models ■

### ON THE MENU



→ In comparison to the UIs of rival brands, Toshiba's feels slightly downbeat, although it's never likely to confuse. Netflix is the key draw of its video-on-demand portal; other streaming apps would be welcome

### SPECIFICATIONS

**3D:** Yes. Passive

**ULTRA HD:** Yes. 3,840 x 2,160

**TUNER:** Yes. Freeview HD and HD satellite (but not Freesat)

**CONNECTIONS:** 4 x v1.4 HDMI; component video input; 2 x USB; SD card input; optical digital audio output; Ethernet; RGB Scart; RF input; composite video input; D-Sub PC port; headphone slot; RS-232

**SOUND:** 2 x 20W RMS

**BRIGHTNESS (CLAIMED):** 400cd/m2

**CONTRAST RATIO (CLAIMED):** 1,600:1 (native)

**DIMENSIONS (OFF STAND):** 1,916(w) x 1,118(h) x 78(d)mm

**WEIGHT (OFF STAND):** 72kg

**FEATURES:** Built-in Wi-Fi; CEVO 4K picture engine; AMR800 motion system; Resolution+ sharpening tool; Brilliance Enhancer; Cloud TV online platform; colour management system; gamma management; MPEG and normal noise reduction

### HCC VERDICT



#### Toshiba 84L9363DB

→ £7,000 Approx → [www.toshiba.co.uk](http://www.toshiba.co.uk)

→ Tel: 020 3468 8665

**HIGHS:** Incredible price versus its rivals; 4K pictures look mostly good; good colour handling

**LOWS:** Native black levels aren't great; not much content on Cloud TV; some lip-sync issues; judder with 3D

**Performance** ★★★★★

**Design** ★★★★★

**Features** ★★★★★

**Overall** ★★★★★

Toshiba's remote is easy to get to grips with





# Making L-ite work of cinema sound

**Danny Phillips** auditions a sub/sat array from UK brand Quad that promises a bigger performance than some of the competition – and finds it delivers the detail and depth to do justice to his beloved *Man of Steel* Blu-ray...





**COMPACT SPEAKER SYSTEMS** can be real problem-solvers in small rooms thanks to their size and cosmetic appeal, but their inherent lack of cabinet volume means they're not always the most commanding performers.

Conversely, larger bookshelf speakers offer more grunt but they're often too boxy and bulky to get the green light from the rest of the household. This conflict between matters aesthetic and acoustic can make choosing a speaker system a real pain in the tweeter.

Help is at hand in the form of Quad's L-ite Plus 5.1 package, which offers slightly larger satellites than most compact systems without hogging space like bookshelf boxes.

This system comes with four identical satellites – each measuring 248mm high

– plus a centre speaker and active subwoofer, all packed into a single box. At £1,200, the package will out-price budget buyers, but isn't prohibitively expensive either. All of the components are available separately should you wish to expand to 7.1 or downsize to 2.1 (the satellites cost £250 per pair; centre £200; subwoofer £600).

I whipped out the satellites and was instantly smitten – the cabinets are curvier than a catwalk queen and thickly smothered in High-Gloss Black, White or Ruby Red lacquer. Our white samples glimmer and gleam under test room lights like buffed-up BMWs and slink into place without drawing undue attention, despite their larger-than-usual dimensions.

The sats' contoured top and side panels also serve a sonic purpose, namely to aid dispersion of sound from the drive units. The cabinets taper towards a rear panel equipped with high-quality metal binding posts. This is illustrative of the good overall build quality.

Those who like a minimal frontage can keep the black cloth grilles attached, which form a striking contrast with the white finish. Remove them and they reveal a 4in woven Kevlar midbass cone and 1in fabric dome tweeter, both fixed to a firm butyl rubber surround. It's all very easy on the eye.

Shouldering dialogue duties is a 382mm-wide centre speaker that can be placed in a supplied tabletop cradle. It features two of the midbass cones, either side of a 1in tweeter that >

#### AV INFO

**PRODUCT:**  
5.1-channel  
speaker package

**POSITION:**  
Part of Quad's  
Performance range,  
below Reference

**PEERS:**  
Monitor Audio  
Radius R90HT1;  
Cambridge Audio  
Aero 5.1



The centre speaker adds an extra driver to improve dialogue





Quad uses a proprietary Kevlar weave for its midbass drivers to achieve a light but stiff cone

uses a precision-engineered waveguide to supposedly aid coherence between mid and high frequencies.

The LF-66 subwoofer is remarkably well-made for the money. Like the other speakers, its weighty, solid cabinet is covered in multiple layers of lacquer. Inside, a 200W amplifier powers two mechanically opposed

**'A smooth, expressive performer with decent dynamics, top-drawer detail fidelity and plenty of power'**

6in bass drivers, composite cones comprising one layer of woven carbon fibre sandwiched between two layers of glass fibre. Try asking for that in Subway.

### Superheroic sound

Hooked up to my AVR and fed with *Man of Steel*'s spectacular DTS-HD mix, the L-ite Plus system conjures up a big, beguiling soundstage peppered with lucid detail and dynamically-steered effects. I was taken aback by the clarity of the sound and its utterly immersive staging. With more cabinet capacity than your average compact speaker, the satellites dispatch action scenes into the room with power and scale, while their accurate effect placement and wide dispersion put you at the heart of the action.

As Krypton is destroyed during the movie's entertaining first fifteen minutes, spaceships blow up chunks of the landscape with huge, bass-rich explosions, and as Jor-El's flying beast swoops down you can hear and feel it screeching and beating its wings above you.

But what makes L-ite Plus an especially likeable performer is its unflappable nature, particularly with the volume up high. As Superman and Zod wreak their brand of interplanetary havoc across Metropolis, midrange and high frequencies stay smooth and easy on the ear. The Quad shows little sign of fatigue no matter how much Zack Snyder cranks up the action.

However, some listeners might crave a little more bite and aggression – the Quad's smooth sound errs on the side of caution, which reduces the overall excitement levels – but I was still easily seduced by their silky charms.

There's also a wonderful sense of cohesion across the entire system, ably demonstrated as Kal tries out his newly acquired powers of flight and swooshes from speaker to speaker without any discernible difference in tone.

The subwoofer also puts in a shift, melding well with the satellites and reinforcing low frequencies with greater punch and depth than its size and driver array would suggest. There's a solidity and control to bass notes that makes transient effects like footsteps and gunfire sound tight, nimble and – most importantly – realistic. Bigger, more expensive woofers deliver deeper thrills, of course, but it's certainly good for the price.

At the other end of the spectrum, high frequencies are crisp, airy and unflustered by rising volume. As Lois and Kal reunite by his dad's grave, the soundstage is alive with chirping crickets and distant traffic, while their hushed conversation is clearly audible. The shouty face-offs between Jor-El and Zod on Krypton also provide evidence of the system's top-drawer speech handling – the L-ite cabinets pick out the little vocal nuances that can go unheard on cheaper speakers.

Switching over to music, the Quad stays true to its hi-fi roots with a highly impressive rendition of Miles Davis' *Blue In Green* and Nirvana's *In Bloom*. Played back to back, they give a sense of the system's versatility – it treats the former's languid, shuffling jazz tones with the utmost respect, keeping the crackly detail intact and nailing the rich texture of John Coltrane's sax solo. With the latter, the Quad's excellent dynamics handle the sudden flits from moody verse to anthemic chorus.

So, if you want a 5.1 system with more clout than compacts, Quad's L-ite Plus is worth an audition. It's a smooth, expressive performer with decent dynamics, top-drawer detail fidelity and plenty of power when the scene demands it. The stylish cabinets will also attract admiring looks. I like it ■

### SPECIFICATIONS

#### L-ITE PLUS SATELLITE

**DRIVE UNITS:** 1 x 4in woven Kevlar cone; 1 x 1in fabric dome tweeter  
**ENCLOSURE:** Two-way, sealed  
**FREQUENCY RESPONSE:** 100Hz–20kHz  
**SENSITIVITY:** 85dB  
**POWER HANDLING:** 100W  
**DIMENSIONS:** 141(w) x 248 (h) x 184(d)mm  
**WEIGHT:** 6.32kg

#### L-ITE PLUS CENTRE

**DRIVE UNITS:** 2 x 4in woven Kevlar cone; 1 x 1in fabric dome tweeter  
**ENCLOSURE:** Two-way, sealed  
**FREQUENCY RESPONSE:** 100Hz–20kHz  
**SENSITIVITY:** 86dB  
**POWER HANDLING:** 100W  
**DIMENSIONS:** 382(w) x 155 (h) x 184(d)mm  
**WEIGHT:** 5.56kg

#### LF-66 SUBWOOFER

**DRIVE UNITS:** 2 x 6in long-throw drivers  
**ENCLOSURE:** Sealed, opposing drivers  
**FREQUENCY RESPONSE:** 35Hz–120Hz  
**ON BOARD POWER:** 200W  
**REMOTE CONTROL:** No  
**DIMENSIONS:** 237(w) x 308(h) x 241(d)mm  
**WEIGHT:** 8.96kg  
**CONNECTIONS:** Stereo phono in; LFE input

### HCC VERDICT



#### Quad L-ite Plus 5.1

→ £1,200 Approx → [www.quad-hifi.co.uk](http://www.quad-hifi.co.uk)  
 → Tel: 01480 452561

**HIGHS:** Elegant styling; solid build quality; potent, immersive sound with excellent dynamics and good scale; detail reproduction  
**LOWS:** Safe sound lacks aggression; plenty of other rivals at this price point

**Performance** ★★★★★

**Design** ★★★★★

**Features** ★★★★★

**Overall** ★★★★★





# PALLADIO

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52 EPSON EH-TW9200W → Approx £3,000





# Back with a bigscreen bang

Technology giant Epson rediscovers its projection mojo with its new flagship stunner, reckons a very happy **John Archer**

**HAVING MADE MANY** of our favourite projectors in recent years, Epson suffered a dip in form last year – especially in light of the improvements made by some rivals. The gentle criticism it received seems to have galvanised the world's best-selling projector brand into action, for with the TW9200W it's right back at the top of its home cinema game.

As soon as you've unboxed it you start to get a good feeling about the TW9200W. Its sizeable chassis looks great in a serious kind of way, its weight speaks of quality innards, and its large, centrally-mounted lens looks even to the naked eye to be of a high quality.

Connections are good, too. There are two 3D-capable HDMI ports and a wireless transmitter kit should you want to cut cable clutter, while system integration is bolstered by an RS-232C port and a 12V trigger output. This latter jack is particularly handy on the TW9200W since, unlike models lower down Epson's latest UK projector range, it can be used to power an external anamorphic lens.

Eye-catching amongst the PJ's specs is the 600,000:1 claimed contrast ratio via the new, improved dynamic iris system. This represents a colossal leap from the 320,000:1 of last year's equivalent model. A 'colour light output' (Epson prefers this phrase to 'brightness' as it helps distinguish its LCD tech from DLP, which loses brightness when showing any colour but pure white) of 2,400 Lumens is also reassuringly high.

The TW9200W provides a 480Hz drive for 3D, frame interpolation that can be used with 3D as well as 2D, two pairs of RF-type 3D glasses included free, and outstanding setup flexibility that includes a solid 2.1x optical zoom and plenty of vertical and horizontal image shifting via two simple wheels on the projector's top edge.

It's a pity the TW9200W doesn't have motorised zoom and focus – especially as the manual focus and zoom rings are a little fiddly

## AV INFO

**PRODUCT:**  
Full HD 3D-capable projector using Epson LCD technology

**POSITION:**  
Top of the 2013/14 Epson catalogue

**PEERS:**  
JVC DLA-X35;  
Sony VPL-HW55ES

and stiff to use. But the TW9200W is capable of taking up residence in almost any shape and size of room, and that's what counts.

The menus offer a huge roster of calibration tools, including white balance and colour management options, some well-considered picture presets, and the options to control key aspects of the projector's processing and the way the dynamic iris system is working.

As I'd expect of a flagship model, the TW9200W is certified by the Imaging Science Foundation (ISF), leaving my only serious feature gripe being the absence of any lens memory options. These are always useful for storing different image settings for different aspect ratios.

## Hitting another level

It's quickly obvious that this projector's pictures are a significant advance from its predecessor, with the image's combination of extreme clarity and deft colour handling the first thing that caught my eye.

The sense of detail in the picture is a real improvement over the TW9100, backing up my initial impression of the high quality of the lens. Also aiding sharpness is the Epson's ability to render colours with great tonal precision, as even the tricky, varied skin tones



The EH-TW9200W offers a 2.1x optical zoom to increase setup flexibility

The EH-TW9200W comes with a wireless HDMI transmitter and a simple-to-use handset





of *The Hobbit...* on Blu-ray appear without looking stripy or patchy.

*The Hobbit...* is also a great revealer of how well the TW9200W handles motion. Even without the Frame Interpolation feature active, there's far less judder than I would normally expect, and that's in sequences shot using very fluid camera movements (such as the escape from the underground Goblin kingdom). In fact, I'd say the PJ's native motion handling is so good that the Frame Interpolation system isn't necessary – at least during 2D viewing.

All this good stuff and I haven't even touched on the TW9200W's contrast yet. This is much improved from last year's models in terms of both the depth of blacks and the

**'The Epson's 3D images enjoy a well-defined sense of depth and space thanks to its strong contrast'**

amount of detail retained during dark scenes. Black levels aren't as deep as those provided by JVC's similarly-priced X35 projector, but the TW9200W has slightly more brightness – even in Eco mode – and handles motion better.

It's also a more assured 3D performer than that JVC – and Sony's excellent HW55ES, come to that. It suffers scarcely at all with crosstalk ghosting noise, which immediately makes 3D pictures look more convincing and sharp, and means there's less opportunity for your sense of immersion to be trampled.

The TW9200W's 3D images also enjoy a well-defined sense of depth and space thanks to the strong contrast performance, and colours still appear natural and well

**The Epson offers standard connections: twin HDMI inputs, component, 12V trigger, D-Sub PC and RS-232**

balanced. However, there's a slightly wispy look to fast-moving edges in 3D unless you use the Frame Interpolation processing, but this can be used on its lowest power setting without the picture becoming over-processed.

While excellent, though, the TW9200W does have some issues. For starters, the dynamic iris creates some noise. It sounds more like someone's tummy rumbling than the harsh grating of last year's model, but it's still aggravating enough during quiet movie moments to probably make the feature a non-starter for some. I could still hear it over a film when sat 2.5 metres from the projector.

Fan noise also cranks up if you shift the lamp from Eco to Normal level – so much so that I'd argue the higher lamp mode is almost unusable. Pity, then, that the TW9200W only plays 3D with the lamp set to Normal. It follows from this that unless you can contain the fan noise (a custom-made hushbox perhaps) and so use the Normal lamp setting, you shouldn't expect to get close to the PJ's claimed 2,400 Lumens of colour light output.

There's another issue with the normal lamp setting too, namely that on my sample it had a negative impact on the Epson's colour handling. There was a large and entirely unwanted injection of red that took quite a lot of calibration work to get past.

#### Up to the task

The improvements Sony delivered with its recent HW55ES really put pressure on Epson ahead of its new models. But with the EH-TW9200W it's risen to the challenge admirably. Bar some niggles (that should be able to be overcome via cunning installation/calibration), this is a cracking cinema PJ ■

#### ON THE MENU

→ Epson's remote won't drive the zoom and focus adjustments (these are tweaked via on-body controls), but it does call up an overlaid user interface (utilitarian rather than attractive) that allows extensive calibration

#### SPECIFICATIONS

**3D:** Yes. Active shutter

**4K:** No. 1,920 x 1,080

**CONNECTIONS:** 2 x HDMI; component video input; RS-232; D-Sub PC port; USB (service use only); 12V trigger

**BRIGHTNESS (CLAIMED):** 2,400 Lumens (Colour Light Output)

**CONTRAST (CLAIMED):** 600,000:1

**DIMENSIONS:** 466(w) x 395(d) x 140(h)mm

**WEIGHT:** 8.4kg

**FEATURES:** Frame Interpolation processing with adjustable settings; Super Resolution processing; two pairs of 3D glasses included free; skin tone adjustment; multiple picture presets; auto iris adjustment (including 'off' setting); eco and normal lamp modes; noise reduction; overscan adjustment; Fine and Fast processing modes; colour management; de-interlacing adjustments

#### HCC VERDICT



#### Epson EH-TW9200W

→ £3,000 Approx → [www.epson.co.uk](http://www.epson.co.uk)

→ Tel: 0871 423 7766

**HIGHS:** Sharp, contrast-rich pictures; excellent setup flexibility; crosstalk-free 3D

**LOWS:** Runs noisily in high lamp mode; slight rumbling noise from the dynamic iris; input lag a touch high for serious gaming; high lamp mode undefeatable for 3D

**Performance** ★★★★★

**Design** ★★★★★

**Features** ★★★★★

**Overall** ★★★★★



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# Onkyo's having a blast

Energetic performance, Wi-Fi and Bluetooth and more HDMI inputs than you'll ever need – the TX-NR929 delivers an awful lot for its £1,000 price tag, says **Mark Craven**

**ONKYO'S TX-NR929 IS** not one of the brand's heavyweight offerings, but this well-priced receiver – it now sells for around £1,000, after initially launching at nearer £1,500 – packs enough performance and feature tricks to comfortably drive and tune most people's setups. The value for money offered is superb, and it's therefore easily recommended.

In use, it's rather fabulous; a full-bodied multichannel monster that doesn't so much as deliver film soundtracks than grab them by the scruff of the neck and throw them around the room with verve and precision. Even considering that Onkyo's power claim of 185W is for a single channel into an six-ohm load, there's plenty of heft here, and it wears its THX Select2 Plus badge with pride. This

means it's been deemed up-to-snuff for mid-sized rooms with a 3-4m viewing distance, which will be many.

Setup is aided by an uncluttered bank of speaker terminals and a generous array of connections. There are nine HDMI inputs, plus two outputs, and various speaker configurations are catered for courtesy of the nine channels of amplification. Pre-outs

The TX-NR929 sports a pull-down flap hiding HDMI and USB inputs





enable an 11-channel setup should you have an extra stereo amp.

The graphical user interface is far from perfect, and on a par with the current systems from Pioneer and Yamaha. Thankfully, the supplied handset is relatively straightforward, and only had me heading down blind control avenues a couple of times during the initial audition period.

Calibration is done via Audyssey's flagship MultEQ XT32 system, and you can choose to run either a Quick Start version or the full, in-depth, multi-measurement iteration.

## AV INFO

**PRODUCT:** THX Select2 Plus-certified 9.2-channel AV receiver

**POSITION:** Below the THX Ultra2 TX-NR3010 and TX-NR5010

**PEERS:** Denon AVR-X4000; Pioneer SC-LX57; Yamaha RX-A1030

Beyond this, the Onkyo provides a range of sonic tweaks, from adjusting the Center Width of Dolby Pro-Logic IIx to setting the default level for individual sources, on top of manual speaker level calibration. This will allow tech-heads to arrange their setup to taste for multiple sources; you could spend hours fiddling. Others may simply prefer to hook up their speakers, press Play, and sit back with a good movie.

## Pedal to the metal

Sucking on the *Fast Five* Blu-ray soundtrack, the TX-NR929 proves its AV mettle. The climactic bank heist sequence becomes a thrilling mixture of revved engines, frantic machine gunfire and crumbling masonry. The Onkyo's effects steering is good, resulting in a believable three-dimensional soundfield that engages your senses, and the crafted soundstage is sumptuously large-sounding. Importantly, there's an effortless nature to this delivery that comes from having power on tap. Dynamic moments, such as the stolen bank vault (seriously...) crashing through concrete bollards, are handled without a struggle.

This is with Audyssey engaged; taken out of the equation and the Onkyo's natural forward-sounding bent, in conjunction with my own rather eager Crystal Audio array, is perhaps a little too brash at the higher registers. Audyssey, for my setup at least, works well to smooth out the performance.

Bass management impresses. The Onkyo ensured my subwoofer and speaker array sang from the same hymn sheet, with fluid handover and no glaring gaps. With *Metallica Through The Never* (BD) this equates to a beautifully cohesive rhythm section, pounding away beneath the distorted guitar work.

Music streaming via the TX-NR929 (video is ignored) is made easier via in-built Bluetooth and Wi-Fi options. Onkyo has taken a lead over other AVR manufacturers in this regard, and I welcome it. Personally, I think Wi-Fi is essential for a modern streaming setup, and Bluetooth comes in handy for guest sources such as smartphones. I paired a Galaxy S4 with the AVR via Bluetooth (in truth, an awkward process) and enjoyed the weight and scale it imparted upon MP3s purchased from the Google Play store. And it's with music that the Onkyo's array of DSP modes comes into play – All Channel Stereo being my personal fuss-free favourite, although with the various Dolby, DTS and THX options (plus some of Onkyo's own genre-specific ones), post-processing fans are likely to find something that appeals. Purists can elect Pure Audio mode.

The TX-NR929 is a perfect example of a crowd-pleasing AVR; easier to operate than some, reasonably affordable and loaded with network tricks and efficient auto calibration features. Full-blooded audio performance is the icing on the cake ■

## ON THE MENU



→ Onkyo's onscreen display can't match the class-leading efforts of Sony's STR-DA5800ES in terms of usability and design, but it's helped by a straightforward handset. There are plenty of audio tweaking options available

## SPECIFICATIONS

**DOLBY TRUEHD:** Yes. And Pro-Logic IIz  
**DTS-HD MASTER AUDIO:** Yes. And Neo:X  
**THX:** Yes. Select2 Plus  
**MULTICHANNEL INPUT:** No  
**MULTICHANNEL OUTPUT (CLAIMED):** 9 x 185W (into six ohms)  
**MULTIROOM:** Yes. Zone 2 and 3  
**AV INPUTS:** Yes. 5 x composite; 6 x digital audio (3 x optical and 3 x coaxial)  
**HDMI:** Yes. 9 x inputs; 2 x outputs (main supports ARC)  
**VIDEO UPSCALING:** Yes. To 4K  
**COMPONENT VIDEO:** Yes. 2 x inputs; 1 x output  
**DIMENSIONS:** 435(w) x 199(h) x 438(d)mm  
**WEIGHT:** 18.5kg  
**ALSO FEATURING:** Built-in Wi-Fi; built-in Bluetooth; Audyssey MultEQ XT32 auto calibration; Audyssey DSX post-processing; 11-channel pre-out; Spotify, last.FM, Aupéo! and Tune-in radio access; Zone 2 HDMI output; MHL HDMI on front panel; audio file playback via USB and DLNA; proprietary Rock, Sports, Action and RPG gaming DSP modes; headphone jack; twin subwoofer outputs

## HCC VERDICT



### Onkyo TX-NR929

→ £1,000 Approx → [www.uk.onkyo.com](http://www.uk.onkyo.com)  
 → Tel: 01628 473350

**HIGHS:** Nine channels of power provides flexible system setup; largescale, energetic sound; top level of Audyssey EQ; Wi-Fi and Bluetooth  
**LOWS:** UI could do with a bit of polish; long-winded calibration; naturally forward-sounding; Bluetooth pairing awkward

Performance ★★★★★

Design ★★★★★

Features ★★★★★

Overall ★★★★★





#### AV INFO

**PRODUCT:**

Affordable soundbar with media streaming talents

**POSITION:**

One of two 'bars in Pioneer's lineup – the SBX-N700 comes with a separate woofer

**PEERS:**

Panasonic SC-HTB570; Sony HT-ST3

# Adding your media to movies and TV

Pioneer's affordable soundbar is loaded with enough useful networking features that **Danny Phillips** is prepared to forgive some minor audio niggles

**MOST SOUNDBARS ARE** focused on sound quality, but Pioneer's SBX-N500 is a little more ambitious. Yes, it packs 140W of muscle for beefing up movies, but it's also blessed with the sort of multimedia and networking talents that put some full-sized systems to shame, let alone soundbars.

Thanks to its built-in Wi-Fi connection and DLNA certification, you can stream music from PCs and NAS drives, with a YouTube portal thrown in for good measure. Bung in Bluetooth, Wi-Fi Direct and Miracast support and the SBX-N500 is less a soundbar, more a full-on wireless media hub.

It's one of two soundbar systems in Pioneer's latest range, the other being the step-up SBX-N700, which adds a separate subwoofer for a £100 premium. But in all other respects the SBX-N500 is identical, saving you a whole heap of cash if you don't fancy an additional bass box.

The design is stylish and unobtrusive, with an unfussy black and grey colour scheme making it a low-key companion for any TV up to 46in (it's a little narrow for anything bigger in my opinion). You can wall-mount it, but it's better suited to tabletop placement. A pair of feet let you raise the height by 20cm, and if it

blocks your TV's IR receiver there's a built-in repeater, plus an extender cable should you (for some reason) want to tuck it in a cabinet.

On the back, the SBX-N500 sports a single HDMI output, which lets you view the Pioneer's menus and YouTube videos on your TV. And because it's ARC compatible, you can pipe audio into the Pioneer through the same cable. But with no HDMI inputs, operation can get a little awkward. It means that the Pioneer is connected to a different TV input than your other devices, so if you want to access its setup menu or watch YouTube you're forced to switch inputs.





# SPECIFICATIONS

**DRIVE UNITS:** 2 x 2.5in full-range drivers;  
2 x 3in bass drivers

**AMPLIFICATION:** 140W

**CONNECTIONS:** 1 x HDMI output (ARC compatible); 2 x optical digital audio inputs; 1 x 3.5mm analogue input; USB; Ethernet; IR extender input

**DOLBY TRUE HD/DTS-HD MA:** No/No

**SEPARATE SUB:** No

**REMOTE CONTROL:** Yes

**DIMENSIONS:** 900(w) x 86(h) x 121(d)mm

**WEIGHT:** 4.4kg

**FEATURES:** Built-in Wi-Fi; Wi-Fi Direct; DLNA 1.5; Bluetooth receiver and transmitter; YouTube (with Send To TV support); Miracast; IR repeater; Surround, Night & Dialogue modes; Game, Movie, Music EQ presets; Lip Sync; Phase Control; Sound Retriever; Dolby & DTS decoders; MP3, WMA, AAC, WAV, APE, AVI, WMV, DivX HD, MP4, 3GP, JPEG, PNG, GIF playback; onscreen GUI; wall or tabletop mounting; height adjustment feet



This annoyance is tempered by the inclusion of two optical digital inputs, alongside an Ethernet port for wired web connection. Hooked up to a network, the Pioneer plays ball with MP3, WMA, AAC, WAV and APE music files, plus AVI, WMV, DivX HD, MP4, 3GP and JPEG. Slam a USB drive into the port and you can add FLAC to the list. And there's more: mobile devices can also be hooked up to the 3.5mm input; Miracast replicates your Android phone or tablet's screen on a TV via Wi-Fi Direct; YouTube's 'Send To TV' feature beams videos from phone to TV; and on the Bluetooth side, the 'bar is equipped with a transmitter, sending audio to headphones and speakers.

It's not all wireless wizardry – there are old-fashioned sound modes, too. Surround broadens the width of the front image; Dialogue mode boosts the midrange frequencies crucial to speech; and Game, Movie and Music tweak the EQ accordingly.

## Driver quartet

The SBX-N500's twin 3in subwoofers underpin two 2.5in full-range drivers, with a Class D amp supplying a quoted 140W of power. It all teams up to deliver a weighty, vibrant sound, with sparkly highs, a feisty (if occasionally wild) midrange and bass by the bucketload. It has no trouble filling a modest room, giving movie soundtracks an impressive sense of scale. With *Pacific Rim* on Blu-ray, its rumbling bass endows the battles between

monsters and robots with convincing depth and thump – punches and stomping footsteps are accompanied by huge thuds, and when one of the beasts slams its tail into a Jaeger, the metallic clank is loud and forceful. A word of warning though – pushed too high, the built-in woofers can sound excessively boomy and will suffocate the other drivers without judicious tweaking.

And even when you've reached the right balance, bass notes aren't particularly tight or nimble, resulting in a slightly loose, thick sound. But that's not uncommon among soundbars at this price – if it's subtlety and watertight cohesion you're after, try saving your pennies for something like the Monitor Audio ASB-2.

I've also tested the step-up SBX-N700 with its separate wireless subwoofer, and I found it to be an unnecessary addition given the hefty bass output generated by the built-in woofers. I think you're better off saving yourself £100 and sticking with the sub-free N500.

Bass issues aside, the SBX-N500 is good value – loud and energetic, with crisp treble and forthright dialogue. Surround mode opens up the front soundstage nicely, and it also does a passable job with music, offering lively rhythms, crisp percussion and prominent vocals, although it's a little too brash and fluffy to satisfy audiophile tastes.

But the main attraction is its extensive feature list, which is far more generous than you have any right to expect for £250 ■

# HCC VERDICT



## Pioneer SBX-N500

→ £250 Approx → [www.pioneer.co.uk](http://www.pioneer.co.uk)

→ Tel: 0330 123 1240

**HIGHS:** Generous feature list; sturdy, low-key design; loud room-filling sound with good detail levels

**LOWS:** Bass lacks agility and tightness; lack of HDMI inputs makes setup slightly messy

Performance ★★★★★

Design ★★★★★

Features ★★★★★

Overall ★★★★★





# Stand and deliver

KEF's ultra-thin stereo speakers are designed to flank your equally-slender flatscreen TV and take charge of audio duties. **Adrian Justins** wonders if they provide a better option than a soundbar

KEF's speakers work in tandem with the HDMI-equipped amplifier 'module'



**WHY GO DOWN** when you can go sideways? Using a pair of external speakers is nothing like as popular as a soundbar for bolstering a TV's audio yet it is more able to deliver decent sonic imaging. And stereo speakers can look much nicer than a soundbar or a soundbase, especially when they're as elegantly designed as the KEF V300.

These 35mm-deep cabinets look just the ticket when placed on a stand next to a slim TV. They're supplied with desk stands, and at 630mm tall the result is a near perfect match for my 46in Samsung, though smaller or larger screens might not look quite as aesthetically pleasing as the stands aren't height-adjustable. The speakers can also be wall-mounted, fixed to the back of VESA-compatible screens or used on optional floorstands.

The speakers are passive and driven by a separate 'activation module', which houses two discrete Class D amps delivering a claimed 50W per channel. The module is a small, flat rectangular black box. The rear sports a power on/off switch, push-type speaker terminals, and inputs for HDMI and digital optical audio. A slider switch provides options for altering

the EQ according to the installation, be it on a stand or wall-mounted. With KEF quoting a frequency response down to only 80Hz it's good to find a subwoofer line output is provided.

There's no remote control and the module is designed to be hidden from sight if preferred,

possibly fixed to the rear of your TV. The V300's output volume can only be adjusted using your TV's remote control. As most screens can't alter the volume of their PCM audio output (the signal that the module accepts) via digital optical, you can't realistically expect to use the V300 in this fashion, so HDMI ARC is the way to go.

Each speaker has two 4.5in ultra-slim dual-layer mid-bass drivers and a 1in vented aluminium dome tweeter with KEF's unique 'tangerine' waveguide, designed to disperse sound evenly throughout a room. Everything is built to a high standard and the cabinets look classy, even the fine mesh acoustic fabric covering the fronts.

Sometimes I found it took a second or two for the V300 to receive its signal and volume adjustment is a somewhat imprecise business, but otherwise setting up and operation proved straightforward.

## With great power...

In terms of performance, KEF's V300 has good imaging and a hefty amount of power, allowing you to arrive at a larger soundstage than is typically delivered by a soundbar. The sound is also clear and distinct. However, its acoustic signature leans towards the shrill side, so that *Iron Man 3*'s crash landing sequence is dominated by the harshness of the higher frequencies of the clanking metal. And because the bass from its driver array is thin, vocals lack warmth and resonance; Ben Kingsley's hilarious Trevor Slattery misses the inherent richness of his sonorous voice, and sounds somewhat flat.

The V300 is therefore a mixed bag. It looks great, offers flexible installation and has some decent audio traits. But I'd be keen to add a subwoofer to the package ■

## SPECIFICATIONS

**DRIVE UNITS (PER SPEAKER):** 2 x 4.5in dual-layer mid-bass drivers, 1 x 1in vented aluminium dome tweeter

**AMPLIFICATION:** 2 x 50W

**CONNECTIONS:** HDMI audio input; digital optical audio input; push-type speaker terminals; subwoofer out

**DOLBY TRUEHD/DTS-HD MA:** No

**SEPARATE SUB:** No (optional extra)

**REMOTE CONTROL:** No

**SPEAKER DIMENSIONS:** 140(w) x 600(h) x 35(d)mm

**MODULE DIMENSIONS:** 271(w) x 28(h) x 162(d)mm

**SPEAKER WEIGHT:** 1.5kg

**MODULE WEIGHT:** 1.2kg

**FEATURES:** Dual Class D amplification; desktop stands supplied; optional floor stands; wall-mountable speakers and module; VESA TV mountable; EQ adjustment (wall/desktop); volume control via HDMI ARC

## AV INFO

**PRODUCT:** HDMI-equipped active stereo speaker solution

**POSITION:** Joined in KEF's Digital TV Sound range by the V720W and V700

**PEERS:** Q Acoustics BT3; Bose Solo; Canton DM 50

## HCC VERDICT

### KEF V300

→ £700 Approx → [www.kef.com](http://www.kef.com)

→ Tel: 01622 672 261

**HIGHS:** Slick-looking; high build quality; powerful sound; versatile placement options  
**LOWS:** High-frequency bias; rather expensive; no volume control when using optical input

**Performance** ★★★★★

**Design** ★★★★★

**Features** ★★★★★

**Overall** ★★★★★



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# Wireless for the wealthy

**Adrian Justins** discovers that Bang & Olufsen's latest active wireless speakers are definitely not a case of style over substance

The BeoLab 17 is the world's first WiSA certified speaker



## SPECIFICATIONS

**DRIVE UNITS:** 1 x 3/4in dome tweeter; 1 x 6in bass driver

**AMPLIFICATION:** 320W per speaker

**CONNECTIONS:** 2x Power Link (RJ45); 1x Line via Power Link; stereo phono in; digital optical input; Wireless Power Link

**DIMENSIONS:** 249(w) x 320(h) x 140(d)mm

**WEIGHT:** 5.5kg

**FEATURES:** Interchangeable driver covers (black, blue, white, ice white); frequency response 31Hz - 24kHz; Adaptive Bass Linearisation (ABL); three-position room EQ switch; Line sense (auto on /off for connecting non-Bang & Olufsen equipment); sealed box design; compatible with BeoVision 11, BeoLab Transmitter 1 and any WiSA-compliant TV or receiver; floor stand, wall bracket and floor base options

**THE BEOLAB 17** is the first speaker in the world that meets the WiSA standard for wireless audio. Decoded sound up to 24-bit/48kHz (WiSA is capable of 96kHz, but 48kHz is imposed for signal robustness) is transmitted to each active speaker.

Without a WiSA source, calibration is rudimentary but the speakers could still be used as a stereo pair for music or as a soundbar alternative. With a current B&O BeoVision 11 screen, setup should be a doddle. For non-B&O screens you can add an Apple Airport Express,

which has RJ45 outputs and an optical audio input, plus a variable volume control. Rather complex and too messy for anyone to seriously consider. The speakers can also be hardwired to the source, but even this is best done within a B&O ecosystem. Simply to enable me to test the

wireless qualities of the speakers B&O supplied me with another option – its Playmaker, which has volume control, a 3.5mm line in and AirPlay, but no optical jack.

B&O doesn't do boring boxes. These are hefty asymmetric cabinets, formed from aluminium triangles with a fabric cover. The design screams loft apartment rather than suburban semi and build quality is first-rate. Each cabinet has a 6in midbass cone and 0.75in tweeter, each powered by a 160W amp.

That's 640W in total, and the power output is phenomenal. Moreover, the detail is incredible and the tonal balance is spot on. The vocals in Antony & The Johnsons' *Twilight* are intense, the throb of Jeff Beck's guitar in *So Real* resonates sublimely, whilst classical works yield profound levels of clarity. The mid-range is highly detailed, the treble is smooth and accurate, and the bass is rich and velvety. You can push the volume without risk; even at high levels the speakers have plenty in reserve.

Some may prefer a warmer sound rather than B&O's clinical response, but if the BeoLab 17 is within your fiscal reach rest assured there's substance here as much as style. A complete 5.1 system is tantalisingly available ■



## HCC VERDICT

### Bang and Olufsen BeoLab 17

→ £2,590 Approx → [www.bang-olufsen.com](http://www.bang-olufsen.com)

→ Tel: 01189 896679

**HIGHS:** Nice design and premium build; phenomenal power output; detailed, tonally balanced audio

**LOWS:** An expensive proposition, especially for 5.1; active speakers require power sockets

**Performance** ★★★★★

**Design** ★★★★★

**Features** ★★★★★

**Overall** ★★★★★

## AV INFO

**PRODUCT:** High resolution wireless stereo speaker

**POSITION:** The more affordable of two wireless designs from B&O

**PEERS:** Sonos Play:5; Pure Jongo; Dynaudio Xeo 3



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# A real speed Devolo

**Martin Pipe** broadens his wireless scope with this easy-to-install networking kit

Essentially standing on the shoulders of IT giants, the Devolo dLAN 500 Wi-Fi combines two established networking technologies – Wi-Fi and powerline – in a manner that's so obvious I'm surprised it's not more widespread. Basically, your £120 buys a package of three boxes that – together – are claimed to 'cure weak Wi-Fi'. One of these boxes, the dLAN 500 Duo, plugs into a spare mains outlet and interfaces with your router via Ethernet. It then communicates at up to 500Mbps, via your mains wiring, with the other devices (called dLAN 500 Wi-Fis). The latter are inserted into mains sockets near to where extra connectivity is needed. In addition to a 2.4GHz-only Wi-Fi access point, each gives you a fast Ethernet port that can hardwire a console, smart TV or other networkable device. Locate each dLAN 500 Wi-Fi sensibly, and you should have full Wi-Fi coverage within the home.

To spare you the bother of having to manually log into different access points every



time you shift from room to room, Devolo has built in its 'Wi-Fi Move' technology to automatically synchronise settings between its devices; however, you'll still need to log in separately to the Wi-Fi provided by your router (unless it's turned off). WPS is supported too.

## Management options

The system – passwords, visibility, access times, wireless channels, updates and so on

The dLAN 500 Wi-Fi plug (right) enables wireless and wired networking

– can be managed via a webpage or the supplied 'Cockpit' Windows software. I found it work wells, speeds exceeding 300Mbps routinely being reached over my archaic but extensive mains wiring. BBC iPlayer on a Roku 3 never skipped a beat even in HD mode. I also used it to network-enable my mains-wired shed, with Wi-Fi ensuring that smartphones and media players could remain on call even in the garden.

## HCC VERDICT

Devolo dLAN 500 Wi-Fi → £120

Overall ★★★★★

PURE EVOKE D2 WITH BLUETOOTH → Approx £100

# Taking control of your radio

DAB radio diva Pure has added Bluetooth functionality to its Evoke D2. **Mark Craven** tunes in

**OVER A DECADE** since the launch of its iconic Evoke-1 DAB radio, Pure has moved into other areas, notably multiroom audio with its Jongo range and digital TV with the super-slick Avalon PVR. Yet the Evoke name lives on, and in its latest iteration, auditioned here, now adds Bluetooth connectivity to the usual mix of DAB radio and pleasing design.

Available in Glacier (white) or Domino (black), the Evoke D2 With Bluetooth (a non-Bluetooth version retails for £80) stands 180mm high. It looks neat and tidy on a shelf, and feels well built for a relatively affordable product. The front grille hides the single 3in driver, above which are various controls, including four quick-access preset buttons (the radio can actually store 20). Around the back is a 3.5mm input for external sources and a headphone jack.

## Whatever's your poison

Performance is fine, as long as you lower your

expectations. That single driver feeds off a dinky power plant and the resulting output is never likely to wake the neighbours. Yet ignore the volume limitations and narrow soundfield and the Pure's good traits come to the fore – it nicely blends low/mid-range weight with



higher-frequency notes, so that Alice Cooper's *Poison*, broadcast by Absolute Classic Rock (DAB certainly has its plus points) comes through with all its snarling menace and squealing guitar lines. Bluetooth streaming, despite a one-off glitch where the Evoke switched back to DAB mode unprompted, proved equally listenable.

Pure's hybrid radio is therefore a decent option for a bedroom or kitchen (it even has a kitchen timer alongside alarm and snooze functions). It's just a shame that the rechargeable battery pack, should you want portability, costs an extra £30 ■

## HCC VERDICT

Pure Evoke D2 With Bluetooth → £100

Overall ★★★★★





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Code HDMIIVGAP £59.99



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Code HDC12 1 HDMI input to 2 HDMI outputs £34.99

Code HDC14 1 HDMI input to 4 HDMI outputs £74.99

Code HDC18 1 HDMI input to 8 HDMI outputs £114.99



## VGA to HDMI

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# The BFG of AV

When it comes to TVs you don't have to be Roman Abramovich to afford, this 90in Sharp is as big as it gets. But is size everything, wonders [John Archer](#)?

## AV INFO

**PRODUCT:**  
90in LED 3D TV  
with Full HD  
resolution

**POSITION:**  
Sharp's flagship  
TV until recently-  
announced 4K sets  
hit these shores

**PEERS:**  
Toshiba 84L9363;  
LG 84LM960V

**IT TAKES A** lot to shock me these days, but the 90LE757 knocked me for the proverbial six in a number of ways. Firstly, it has Sharp's name on it. This is somewhat startling, given that the brand's TVs have been AWOL from my test bench for many months.

Secondly, the 90LE757's 90in screen really is epic to behold, completely filling your field of view and turning any room into a *bona fide* cinema. I have, of course, seen a few 84/85in TVs recently, but it's still surprising just how much extra impact five inches can have.

The final shock with the 90LE757 is its price. At £11,000 it isn't nearly as expensive as I expected. Admittedly, elsewhere in this issue there's Toshiba's 84in 84L9363DB 4K TV that's selling for just £7,000, but adding

incremental extra inches once you get up to the 90LE757's size level is a costly business.

Despite my repeated mentions of 4K, I ought to stress that the 90LE757 is 'only' a Full HD set – until the recent CES show, Sharp didn't have a 4K consumer set on its books, and has been focusing on ultra-large TVs instead.

You may be wondering if a non-4K 90in TV really has a place any more. I'd argue it does on the grounds that a) a 90in 4K TV would cost more than £11,000, and b) 4K sources are still conspicuously absent.

## Hard to miss

The 90LE757 doesn't wear its enormity particularly stylishly. Its frame is quite wide and



the build quality seems average rather than outstanding. But you may be too busy staring at the vast screen to notice what's around it.

Hiding on the set's mighty rear are four HDMI, an Ethernet port, and three USBs that support timeshifting as well as multimedia playback. The Sharp also supports Wi-Fi but only, surprisingly, via a supplied USB dongle. This sets alarm bells ringing as to how long ago the 90LE757 actually rolled off the Japanese firm's production line. At least the company has the decency to chuck the dongle in for free, something it hasn't seen fit to do with 3D glasses.

The 90LE757's pictures are driven by a pseudo 200Hz system based on a 100Hz panel (at a time when many rivals sport 200Hz native panels and beefed-up rates of

**'The humongous panel provides the perfect forum for the Full HD resolution of active shutter 3D'**

1,000Hz and more), and you don't get Sharp's Quattron technology for adding a 4th yellow sub-pixel. More promising is that the X-GEN panel is lit by a direct LED system, where the lights are positioned behind the screen. This seems a better idea than a cheaper edge LED system, which would probably have struggled to work effectively with a 90in screen.

The 90LE757 provides a bountiful suite of image adjustments, including six-colour colour management, temperature and gamma tweaks, but it's back into negative territory with its AQUOSNet+ Smart TV platform. This is painfully low on content, and the apps that are offered are generally of extremely limited interest. If you want a real 'net-connected experience, you're advised to partner this set with a dedicated media streamer.

### Monster performer

Fortunately the 90LE757 hits its stride with its picture quality. Only minor calibration work was required to eke a very respectable colour performance out of Sharp's monster. It handled the bold, almost cartoon-like palette of *Pacific Rim* and the much more muted palette and tricky skin tones of the final *Harry Potter...* film with equal aplomb. There's plenty of punch to colours, too, even after I'd nudged down the screen's brightness to get the best black levels.

This post-calibration black level response really is very good, as the direct LED system largely avoids any low-contrast greyness issues. There's impressive light uniformity, too, with no major evidence of the haloing

sometimes seen around bright objects on direct LED TVs.

Motion is handled well, without severe judder or blur even with the set's motion processing turned off. And you should turn it off, for it tends to cause unwanted processing side effects when activated.

Despite the vast proportions of its pictures, noise with HD sources isn't a major problem for the Sharp behemoth, provided you haven't got either the contrast or sharpness settings raised too high. Yet there is a feeling that 90in is at the outer limit of what HD can comfortably expand to on a TV without crumbling, as the screen size is ruthless in its exposure of the slightest source imperfections. High-quality transfers, such as *Pacific Rim* on Blu-ray look little short of majestic, though.

Standard-definition material, not surprisingly, is a tougher watch, with the acreage of screen exposing clearly the digital compression noise so rife with SD broadcasts. And while the 90LE757's upscaling system does make a decent fist of well-authored DVDs, buyers of this set should try to exist exclusively on an HD diet.

### Snacking on active 3D

Given that 3D's natural home is on huge screens I'd hoped the 90LE757 would eat Guillermo del Toro's sci-fi in 3D for breakfast, and donning Sharp's active shutter 3D glasses really is a fun experience. The humongous panel provides the perfect forum for active 3D's trick of revealing the Full HD resolution of 3D Blu-rays, and the screen's brightness combats the dimming effect of the spex. The Sharp's strong contrast helps delineate a good sense of 3D space too, and motion is less juddery than expected.

There is a little crosstalk ghosting noise around distant objects, such as the lights of *Pacific Rim*'s shatterdome, but it's not strong/common enough to be unbearable.

The only really troubling 3D issue was a shadowy vertical bar down the picture. Sharp is adamant this is a flaw of our test sample rather than a normal phenomenon.

The 90LE757's pictures clearly deserve a large-scale soundstage. Here, the Sharp does pretty well, using its huge chassis to house some quite potent speakers able to go fairly loud without becoming distorted or harsh. A little more treble clarity would have been appreciated, but this screen's sonics are well above the flat TV average.

Overall, despite feeling a bit dated, and even though you can get good projectors for much less money and Toshiba's 84in 4K 84L9363DB for just £7000, the LC-90LE757 has still proved big enough and good enough to earn a place in my home cinema heart. Let's hope Sharp uses it as a platform to build upon rather than disappearing off the radar again ■

### ON THE MENU



→ Sharp's UI is a bit short on visual panache but the sensible layout and scrolling menu bar makes browsing its features painless. As a Smart portal, AQUOSNet+ needs rapid improvement to frighten the competition

### SPECIFICATIONS

**3D:** Yes. Active  
**ULTRA HD:** No. 1,920 x 1,080  
**TUNER:** Yes. Freeview HD  
**CONNECTIONS:** 4 x HDMI; RF input; headphone jack; D-Sub PC port; optical digital audio output; analogue audio output; component video input; composite video input; RGB Scart  
**SOUND:** 35W (10+10 with 15W subwoofer)  
**BRIGHTNESS:** 350cd/m2  
**CONTRAST RATIO:** N/A  
**DIMENSIONS (OFF STAND):** 2,054(w) x 1,211(h) x 116(d)mm  
**WEIGHT (OFF STAND):** 68kg  
**FEATURES:** Wi-Fi via USB dongle; Active Motion 200 processing system; multimedia playback from USB; timeshifting to USB; AQUOSNet+ Smart TV system; film de-judder; noise reduction; scanning backlight; Skype ready; DLNA support

### HCC VERDICT



### Sharp LC-90LE757

→ £11,000 Approx → [www.sharp.co.uk](http://www.sharp.co.uk)  
 → Tel: 0800 262 958

**HIGHS:** HD pictures generally look good; DVDs are upscaled quite well; decent sound quality and stereoscopic performance

**LOWS:** Minor 3D crosstalk; not a 4K panel; poor Smart TV service; average design and build quality

Performance ★★★★★

Design ★★★★★

Features ★★★★★

Overall ★★★★★



# Relatively inconspicuous

As well as making real room-shakers, low-frequency specialist REL now offers a smart-looking 'lifestyle' option that has **Adam Rayner** wishing his room was more ABC1



**HERE'S A DELICIOUSLY** odd one – a subwoofer designed to be mounted on a wall. A 'lifestyle product', I would bet my life that REL's original designer Richard E Lord would never have designed this. However, it is with pleasure that I can suggest that, had he been asked to approve the performance of the Habitat 1, he would have done so, happily.

The idea of REL's new woofer, available in either black or white, is that it can be installed discreetly in any room (I used the optional floorstand rather than wall-mounting), offering a decent heft of bass without upsetting your interior designer. Aiding this is the fact that there's no need to run a signal wire around your room; the Habitat 1 is supplied with a wireless transmitter and sports a built-in wireless receiver, collectively known as the

company's own 'Longbow' system.

Wireless installation proves brilliant. REL suggests its subs should always be dual-connected via the supplied Speakon high-level plug (from your front speakers) as well as a single phono into the LFE input. Both the

subwoofer itself and the neat-looking transmitter unit have the same connection options. I hooked up the Habitat 1 both directly and wirelessly and found no disadvantage level-wise whatsoever by using the latter. As REL's Longbow system should present no tech challenge, even to the hard of thinking, there's no reason not to use it. Pairing occurs automatically.

Continuing the easy-to-use theme, the Habitat 1's manual is filled with illustrations of how to properly install it into your home, with tips on finding the best location acoustically given your room's constraints. The few controls (crossover, phase and volume) are easy to master and the manual guides novices through using them.

## Wireless wizardry

The subwoofer may be small (just 635mm wide and 114mm deep), yet its two active 6.5in drivers, powered by a 150W amp, pack a ridiculous punch, given extra depth by the rear-firing passive radiating 10in cone. I dipped into *Harry Potter & The Deathly Hallows Pt 1*, which has a good amount of booms, bangs and crashes, and the REL easily added presence to my regular B&W floorstanders.

More than that, the large motor-grip-to-surface-area ratio of the two woofers ensures exceptional control. The bass is therefore amazingly taut, accurate and rich. Yes, you can find a limit if you set levels stupidly high but its performance is still worthy of its premium price tag, particularly when you factor in the wireless system.

Over the past few weeks the Habitat 1 has merged unobtrusively with my setup and been used with Freeview TV broadcasts as well as all manner of BDs from sci-fi flicks to family 'toons, and it has been tremendous throughout. It is beautifully constructed and will startle your guests, especially if you use petite satellite speakers all round. REL's technology is impressive and the output is, too ■

## SPECIFICATIONS

**DRIVE UNITS:** 2 x 6.5in long-throw steel chassis drivers; 1 x 10in passive radiator  
**ENCLOSURE:** Sealed, front- and rear-firing  
**FREQUENCY RESPONSE:** 38Hz at -6dB  
**ON-BOARD POWER:** 150W  
**REMOTE CONTROL:** No, but uses proprietary Longbow™ wireless signal transmission system  
**DIMENSIONS:** 635(w) x 406(h) x 114(d)mm  
**WEIGHT:** 23kg  
**CONNECTIONS:** 1 x phono input (low level); 1 x phono input (LFE); 1 x high-level Neutrik Speakon socket



## HCC VERDICT

### REL Habitat 1

→ £1,300 Approx → [www.rel.net](http://www.rel.net)

→ Tel: 01656 768 777

**HIGHS:** Beautiful, compact design; superb wireless connection; fine performance

**LOWS:** You can find the limit of the 6.5in cones if you overdrive them; wireless system contributes to price tag

Performance ★★★★★

Design ★★★★★

Features ★★★★★

Overall ★★★★★

## AV INFO

**PRODUCT:** Wall-mountable wireless subwoofer

**POSITION:** Sits next to the more traditional T, R and Gibraltar subs in REL's lineup

**PEERS:** Q Acoustics 7070si; KEF R400B



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**WHAT HI-FI?**  
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# Humax goes back to basics

The set-top box maker takes a break from launching YouView and Free Time hardware to return to its Freeview+HD roots. **Grant Rennell** gets timeshifting



**HUMAX'S HDR-FOX T2** was hitherto one of the best Freeview+ HD recorders available and now it's produced this successor, the HDR-2000T.

Available with 500GB or 1TB drives (as tested here), its minimalist exterior perhaps looks best from a distance. The front panel is clad in brushed aluminium, adorned by touch keys for power and volume and channel-changing. Unlike the HDR-FOX T2 there's no graphical display; instead an LED indicator glows red when recording or in standby, or blue when performing other tasks. There's a USB port on the front and another on a rear panel that also includes an HDMI output, an RGB-capable Scart output, an optical digital audio output and composite video. A Humax WLAN USB dongle can be used for wireless networking. This sells for £30 approx, but you may find it bundled by some retailers.

The glossy black remote is of the same design as found with the manufacturer's YouView boxes. It's superior to many set-top box zappers I've used, blessed with a sensible layout and able to be programmed to control many brands of TV.

The user interface is easy to navigate, and the EPG can display data for channels of a certain type – such as HD – or those in one

of five user-definable favourites lists. You can search for shows by entering keywords or see lists of upcoming broadcasts organised by genre. Freeview+HD functionality, including automatic series recording and, for some channels, recommendations for similar shows to record, is catered for.

The HDR-2000T's twin tuners allow two channels to be recorded at once but a nice bonus is that you can also watch and timeshift a third channel at the same time. The timeshift buffer lasts up to two hours.

Series recordings are grouped into folders; you can create and name your own. Recordings can also be re-labelled. More usefully, they can be stored on and played from USB drives, although only SD recordings were delivered via my PC. The Humax's USB inputs allow for local playback of other file formats, too, and you can also stream content from DLNA-networked devices or use the HDR-2000T as a media server, sharing files stored on the hard disk (including SD recordings). I was able to stream a recording to my computer for viewing using Windows Media Player, while the box recorded two channels and enabled viewing of a third. Handy for content-addicted households.

BBC iPlayer, BBC News, BBC Sport, YouTube, Flickr, Picasa, Wiki TV, Teletext Holidays and an internet radio player feature on Humax's TV Portal of online apps. Others, including Twitter, can be downloaded, but the remainder isn't that exciting. As a Smart product it's sitting near the back of the class.

Providing the source is of sufficient quality to start with, 1080p upscaling does a good job of visibly improving SD TV, and HD transmissions from the BBC in particular are pleasingly detailed.

## Welcome addition

The absence of a display or access to other catch-up TV – as found on Humax's YouView boxes – may disappoint some, but the flexible recording options, decent performance and multimedia functionality make this a fine follow-up to the HDR-FOX T2 ■

## SPECIFICATIONS

**HDD:** 1TB  
**TUNER:** 2 x Freeview HD  
**CONNECTIONS:** HDMI v1.4; Scart; composite video output; stereo phono audio; optical digital audio output; 2 x USB 2.0; Ethernet  
**DIMENSIONS:** 320(w) x 245(h) x 50(d)mm  
**WEIGHT:** 1.83kg  
**FEATURES:** Record two channels while watching a third; Freeview+HD functionality including automatic series recording; can store recordings on USB drives; 8-day EPG with search and sorting; 1080p upscaling; Wi-Fi-ready (dongle required); USB media playback; DLNA media streaming; media server functionality; FTP Server feature; TV Portal with BBC iPlayer, BBC News, BBC Sport, YouTube, Flickr, Picasa, Wiki TV, Teletext Holidays, internet radio; Dolby Digital Plus/Pulse support

## AV INFO

**PRODUCT:** Twin-tuner networked PVR

**POSITION:** The latest Humax Freeview+HD PVR, its first since the HDR-FOX T2

**PEERS:** Panasonic DMR-HWT230; Pure Avalon 300R

## HCC VERDICT

### Humax HDR-2000T

→ £240 Approx → [www.humaxdigital.co.uk](http://www.humaxdigital.co.uk)  
 → Tel: 0844 669 8800

**HIGHS:** Can record two channels while watching a third; media server functionality; good overall performance and usability

**LOWS:** Has no graphical display; 'TV Portal' could be improved; wouldn't stream MKV files; user interface not as neat as rivals

**Performance** ★★★★★

**Design** ★★★★★

**Features** ★★★★★

**Overall** ★★★★★





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# Adding basic bass to your TV

**Mark Craven** wonders if a £70 subwoofer has a place anywhere in his system

**IF YOU THINK** the speakers in your TV are fine for the upper frequencies, just a little lacking in low-end, then this cheap subwoofer might appeal. Made by British brand Vibe (a known name in car audio), it sports a 5in driver married to a peak 80W amplifier, and connects to your flatscreen via optical digital or analogue audio. Both cables are supplied in the box, as part of the Optisound TV5D's plug 'n' play ambition.

The cabinet is front-ported and a sliver over 10in wide. This should make it easy to place somewhere out of sight (which you may well want to do as it's hardly stylish).

## Taming the beast

Once installed the immediate problem with the Optisound TV5D is getting its level set right. Bass control is achieved via a knob on the rear and, as there's no remote, this means you'll be up and down trying to find the best setting for your TV.



I started at the maximum and dialled it back to less than a quarter (the manual suggests beginning at zero and working upwards) because anywhere beyond that and I found the performance unpleasant, with the woofer seemingly aggravating the cabinet and producing occasional rattles, and showcasing a boomy, unrefined nature.

**The Optisound TV5D uses a 5in bass driver**

With the output severely reduced, the Optisound TV5D shows its value, adding noticeable (but slightly muffled) bass presence to a 32in Panasonic set. MTV's various music channels were the greatest beneficiary, as the Vibe had something to work with. Sparse dialogue-led material (such as the news) was more problematic, as I was aware of its presence in the audiofield without it actually being necessary. It's a device you'll want to use selectively ■

**HCC VERDICT**

**Vibe Optisound TV5D → £70**

**Overall** ★★★★★

MAXELL MXSP-SB3000 → Approx £230

# Taking on the big boys

**Adrian Justins** auditions a soundbase speaker from a brand that's new to the game

**UP CLOSE IT** looks a bit like an MDF project your dad knocked together in the 1980s but, given the price tag, Maxell's SB3000 has an awful lot going for it in terms of its spec. Its size and strength mean it will accommodate huge TVs up to 80kg in weight and its rear panel boasts three HDMI inputs, an HDMI ARC, digital optical audio, coaxial audio and various analogue variants. The icing on the input cake is aptX-compatible Bluetooth audio streaming. Power output comprises 100W for the built-in sub and 30W each for its two full-range drivers.

## Challenging operation

An eight-character display on the front panel is just about legible from across the room and operation using the dull-looking remote is straightforward enough. The challenge is in extracting the best performance by hitting the right combination of SRS, bass setting and preset EQ mode (with four options).

Get the settings right and the SB3000 will serve up a rich, resonant and well-imaged soundscape. It delivers terrific bass with music; the theme to *Jaws* has menace, with its two-note string theme beautifully balanced

with the subtle horn. Vocals are profoundly affected by the bass setting and SRS, with the latter boosting Alexander Armstrong's tones notably during a lazy afternoon in front of *Pointless* on BBC One.

In cinema mode, when Iron Man crashes into the snow in the recent sequel, the sparks are distinct, while the falling water tower is clean and free of harshness. However, Robert Downey Jr's dialogue is not as distinct here as in music or standard modes, even with SRS on. So while the SB3000 is capable of greatness you can't just sit back and let it do the work. Overall, though, this is rather good ■

**Able to take an 80kg TV, says Maxell**



**HCC VERDICT**

**Maxell MXSP-SB3000 → £230**

**Overall** ★★★★★



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# An audiophile chip off the block

The AVR450 lacks the sheer power and multi-voltage amplification of its bigger brother, but is a good deal more affordable. That suits **Danny Phillips** right down to the ground

## AV INFO

**PRODUCT:**  
Seven-channel  
AV receiver

**POSITION:**  
Midrange, between  
the AVR380 and  
flagship AVR750

**PEERS:**  
Yamaha RX-A3030;  
Pioneer SC-LX87;  
Onkyo TX-NR3010

**WHEN IT COMES** to crafting AVRs, Arcam is very much from the old school. It's more concerned with the purity of performance than the number of logos on the box, an ethos that has earned it audiophile adoration, if not the attention of feature-seeking budget buyers.

This is apparent once again with the AVR450, a high-end seven-channel AV receiver that sits between Arcam's flagship AVR750 (reviewed in *HCC* #225) and the £1,500 AVR380.

We loved the AVR750. It lives up to Arcam's claim that it's the finest home cinema receiver the company has ever made, offering a refined, potent performance, not only with multichannel movies but also stereo music.

Despite the AVR450 selling for a much lower price than the AVR750 (£2,200 compared to £4,000), there's very little difference between them in terms of features, design and connections. The price difference is mainly explained by the AVR450's less

sophisticated power amp stage. The AVR750 uses multi-voltage Class G amplification, which operates in Class A up to 20W but for anything over that switches to a different power rail and operates in Class AB.

This 'rail switching' makes Class G amps more efficient. However, the AVR450 sticks with Class AB, and doesn't reach the same levels of power. It delivers a claimed 125W with two channels driven and 90W with all seven running, while the AVR750 musters 130W and 100W respectively. To some, that extra juice will be £1,800 well spent; to others with a less demanding system to drive, it could be an unnecessary expense.

But the difference in price doesn't affect the AVR450's build quality, which is mind-blowing. Its high-grade electronics are encased in bodywork so solid that you could probably drive a truck over it (not recommended). And at over 15kg it's a heavy lift, yet still a kilo lighter than the AVR750.



Looks-wise it's identical to the AVR750, which means more of the same clean, esoteric styling that has defined Arcam's kit for years.

You'll find a 3.5mm minijack input and 3.5mm headphone jack on the front, but the rear-mounted USB port makes connecting an iPod or thumbdrive a real pain. Any connected HDMI cables (there are seven

## 'The Arcam remains unflapped by relentless action; crank up the decibels and it stays in control'

inputs and two outputs) and other wires obstruct access to the socket.

The rest of the connections include two optical and four coaxial digital inputs, three sets of component inputs and 7.1-channel pre-outs, but the lack of multichannel analogue jacks for legacy players is surprising.

Integrating the AVR450 into a custom installation? No problem. RS232, 12V trigger and IR receiver sockets for Zones 1 and 2 are provided, as well as a 6V output for Arcam's rSeries peripherals. An Ethernet port allows you to tap into the AVR450's network streaming and web radio functionality.

Glitzy features are few and far between – don't expect stuff like Spotify and AirPlay. You can, however, access 'net radio (and DAB), and stream files over a network. The experience is smooth thanks to fast handshaking and straightforward menu architecture, but I was miffed to find that it wouldn't play my hi-res audio files via USB – in this case 24-bit/96kHz FLAC and ALAC. It did, however, play MP3, WMA, WAV and 'standard-definition' FLAC, but doesn't display cover art.

The AVR450 is easy to configure thanks to an auto setup system that calculates speaker size, distances, levels and crossovers, before applying EQ filters to cancel resonant frequencies. You can choose which inputs use this EQ and which don't – I left two-channel

playback untouched but liked its effect on Blu-ray playback.

For manual setup there are plenty of options in the onscreen menu, which is old-fashioned but logically laid out and responsive. The Arcam's slick, hassle-free operation is enhanced further by an uncluttered backlit remote.

### Multichannel muscle

The AVR450's drop in power compared with the AVR750 doesn't stop it making a big impact with multichannel movies. It's a muscular, insightful and organised performer, thrashing out the Kryptonian chaos at the start of *Man of Steel* [have you worn that disc out yet? – Ed] with aplomb.

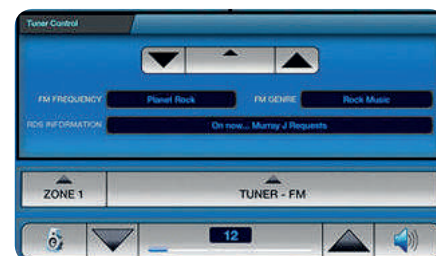
As Jor-El looks upon his home planet being destroyed, explosions sound positively thunderous while lasers zap energetically around the soundstage. The Arcam uses quick steering and huge dynamics to create an immersive, involving surround image, and when Jor-El summons his beast H'raka, his voice cuts cleanly through the chaos and his steed swoops down with thick wafts of bass.

It's incredibly thrilling stuff. The Arcam remains unflapped by the relentless action; crank up the decibels and it stays resolutely in control. Also impressive is the AVR450's high-frequency handling. It excavates the finest details from a soundtrack, enhancing a movie's softer moments with absorbing background textures and half-heard noises. The sound is crisp but not clinical.

And like its big brother, the AVR450 is a dab hand with music, delivering an atmospheric rendition of Thievery Corporation's *Stargazer* (FLAC). The echoey guitar chords pulse rhythmically with the beat, while dubby effects and crisp percussion ping-pong around the stereo stage without affecting the clarity of the vocals. This sparkling performance is proof that top-drawer movie sound needn't come at the expense of musicality.

It may lack eye-catching features, onscreen sophistication and nine-channel amplification, but the AVR450's bravura performance is the real draw here – in both multichannel and stereo modes its sound is utterly captivating and remarkably muscular ■

### ON THE MENU



→ The user interface is cut from the same cloth as previous Arcam receivers, but is quick to browse and well structured. You can supplement the owner experience with the free ArcamRemote app, but it's currently iPad only

### SPECIFICATIONS

**DOLBY TRUEHD:** Yes. And Pro-Logic IIx  
**DTS-HD MASTER AUDIO:** Yes. And Neo:6  
**THX:** No  
**MULTICHANNEL INPUT:** No  
**MULTICHANNEL OUTPUT (CLAIMED):** 7 x 90W (into eight ohms)  
**MULTIROOM:** Yes. Zone 2  
**AV INPUTS:** Yes. 4 x composite; 6 x digital audio (2 x optical and 4 x coaxial)  
**HDMI:** Yes. 7 x inputs; 2 x outputs (ARC)  
**VIDEO UPSCALING:** Yes. To 4K  
**COMPONENT VIDEO:** Yes. 3 x inputs  
**DIMENSIONS:** 433(w) x 171(h) x 425(d)mm  
**WEIGHT:** 15.5kg  
**ALSO FEATURING:** Network music streaming; internet radio; MP3, WMA, WAV and FLAC playback; DAB and FM radio tuners; 7.1 pre-amp output; Dolby Volume; Auto Setup; ArcamRemote app; RS232, 12V triggers and IR control

### HCC VERDICT



### Arcam AVR450

→ £2,200 Approx → [www.arcam.co.uk](http://www.arcam.co.uk)  
 → Tel: 01223 203200

**HIGHS:** Outstanding build quality; captivating sound quality in multichannel and stereo; easy to set up and use

**LOWS:** USB port on back; wouldn't play hi-res files via USB; low on features; only seven-channel

Performance ★★★★★

Design ★★★★★

Features ★★★★★

Overall ★★★★★

As with the AVR750, the USB port is on the back. D'oh!





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# DIGITAL COPY

**Mark Craven** experiences a rollercoaster of emotions trying to keep up with the gossip about 4K Blu-ray – and decides to wait until the hardware is actually in his hands before rejoicing

**IT'S BEEN SOMEWHAT** weird writing my column this issue. I began it in a state of frustration and despondency, and then began rewriting it three days later with a little skip in my step before returning to a mood of doom and gloom. And the reason for these mood swings was the Blu-ray Disc Association (BDA).

The BDA is the organisation in charge of our favourite AV format, a pan-industrial gang of tech and software giants that has decided standards and promoted the hi-def disc around the globe. And it really has done a spectacularly bad job of it.

I'm not just talking about the Profile shenanigans of its early days, or its inability to accurately explain to swathes of the population what Blu-ray actually is, but how it gets its message across in general.

## Dis(c)information

Take the BDA's own website ([www.blu-raydisc.com](http://www.blu-raydisc.com) if you want to check it out). This portal to all information Blu offers a newsletter (last issued in March 2009) and press releases (nothing since April 2010). In the world of the BDA, nothing of any note has happened in nearly four years. 3D? Never heard of it.

So what of any new Blu-ray standard? A super-charged profile totting 4K, HFR and, I dunno, Dolby Atmos compatibility? Officially the BDA says nothing about it. And this is what kicked off my frustration.

The 2014 International CES came and went without any announcement from the industry body. Show floors were crammed with 4K displays, but all that videophiles could really get excited about was the news from Netflix that it will begin 4K streaming later this year. And some videophiles won't get excited by that at all.

Anyway, there I was, all ready to order myself some pro-grade business-strength broadband in anticipation of streaming Sony's back catalogue of movies in 3,840 x 2,160 resolution, when news appeared via US media (The Hollywood Reporter and TWICE.com) that the BDA had confirmed in off-show briefings that it had agreed the addition of 4K to the Blu-ray standard. This all sounded incredibly exciting – especially the revelation (sadly unsupported by a quote) that 4K discs could arrive before the end of the year. Hurrah!

Then I began reading through all the quotes in question, from Victor Matsuda and Andy Parsons, BDA global promotions committee chairman and spokesperson respectively. This revealed that actually, **agreeing the addition is something that was probably done ages ago**, and having a 'technical group' working on the specification is hardly news. Indeed, it sounds very similar to the same non-news offerings that the BDA slipped out during the IFA expo in September.

It's all very vague, yet before long various reports were doing the rounds online that 4K discs would be released in 2014. Personally I think this is as likely as Panasonic launching another plasma, not least because there's a total lack of hardware to play such discs on. Prototypes showing up in the Autumn? Maybe. But actual discs on sale by Christmas? Don't bet on it.

Now I may be wrong and they could be finalising the *Man of Steel* 4K artwork as we speak, but until the BDA makes an official announcement, or a 4K player arrives on my desk, I'm not going to pay much attention to the gossip. I simply can't take all this excitement ■

*Have you already bought a 4K TV or projector?  
Let us know: email [letters@homecinemachoice.com](mailto:letters@homecinemachoice.com)*

**Mark Craven** keeps forgetting that he will need to upgrade to a 4K screen before either 4K streaming or 4K Blu-ray is of any use to him







# FILM FANATIC

**Anton van Beek** takes the industry to task for its narrow-minded approach when it comes to selecting the nominees for the year's major movie awards...

**HUZZAH!** BY THE time you read this we'll be a little over a month into 2014 and awards season will be in full swing in Hollywood. As I write this the Academy Award nominees have yet to be announced, but I think I'm on pretty safe ground predicting that *Gravity*, *American Hustle*, *12 Years a Slave*, *Captain Phillips* and *The Wolf of Wall Street* will all feature heavily given their strong presence at this year's BAFTAs.

As depressingly easy as it is to guess which films will make up the bulk of the Best Picture nominees at these major awards bashes, even more depressing is the way that the same films tend to dominate all of the other major categories as well. Annually, the majority of the flicks put forward in the Best Director, Cinematography, Actor and Actress (both lead and supporting), Editing, Production Design and Sound Mixing categories come from that same small pool of movies that are also vying for the Best Picture gong.

This is, of course, complete nonsense. If it was true, it would mean that out of the hundreds of films released every year, **somehow there is always a select group that essentially represent a 'perfect storm' of the cinematic arts**, where every single part of the filmmaking process is the very best that the industry has to offer. And as every film fan knows, this simply isn't the case.

Of course, you can't expect the thousands of industry professionals eligible to vote for the BAFTAs or the Oscars to actually bother watching lots of films (as if!). Instead, it's far easier for them to make their decisions based on a narrow selection of movies that have already been deemed the 'year's best' by critics. Nor should we forget about the studios themselves, with their constant lobbying

for specific films to win multiple award categories to be used as a promotional tool.

So in an attempt to redress the balance, I thought I'd offer up my own list of cinematic award-winners for the past year...

**Best Picture:** *Gravity 3D*

**Best Director:** Alfonso Cuarón (*Gravity 3D*)

**Best Actor:** Daniel Brühl (*Rush*)

**Best Actress:** Mia Wasikowska (*Stoker*)

**Best Supporting Actor:** Tom Hiddleston (*Thor: The Dark World*)

**Best Supporting Actress:** Kristin Scott Thomas (*Only God Forgives*)

**Best Cinematography:** *Only God Forgives*

**Best Editing:** *Man of Steel*

**Best Sound Mixing:** *Oblivion*

Well, would you look at that: nine different award categories and only two instances where a film wins more than one. And one of those – *Only God Forgives* – is a movie that I'm not particularly fond of, but that doesn't prevent me from appreciating its startling cinematography or the brilliance of Scott Thomas's chilling performance. Likewise, I wasn't a huge fan of *Oblivion*, but the intricacy of its audio mix is a joy to behold. And don't get me started on the genius of David Brenner's editing, which managed to bring a cohesive sense of structure and geography to *Man of Steel*'s chaotic action scenes.

In other words, films don't have to be perfect to be the best in any one particular area of production. And the sooner the industry recognises this, the sooner these award ceremonies will start feeling relevant and less like a marketing tool ■

*What were your favourite films of the past twelve months? Let us know: email letters@homecinemachoice.com*

**Anton van Beek** reckons he watched more films in the last year than most BAFTA voters. Although a lot of those were *Friday* the 13th sequels...





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# Feedback

Got an axe to grind? Need to comment on current technology?  
Want to share your knowledge with our readers? **HCC** is here to help

## The Ohm Factor!

I hope you can help me, I have had my current setup for a while now (15 years to be exact) and am looking at upgrading my AV receiver. I have set my sights on the Pioneer SC-LX87 as sound quality and speaker integration was good in your review. The only issue I am left scratching my head with is the 'ohm factor'! I read a while back that the ohm rating of your speakers should match that of the amplifier. I currently have three Miller & Kreisel S-85s for the front soundstage and two SW-85s in the rear ceiling for the surrounds, with an MK MX-200 subwoofer providing the bass. The speakers are rated at four ohms but from your review the SC-LX87 is rated at six ohms.

Does this mean there will be a problem with the sound reproduction using this amp with my current setup? If so, could you recommend a good AV receiver around the same price bracket that would work with my MKs?  
*Jason, Surrey*

**Mark Craven replies:** The six ohm figure we listed in the review of Pioneer's range-topping SC-LX87 is the one the company quotes when referencing its power output (a claimed 220W per channel, into six ohms). However, delve deeper into the manual and Pioneer explicitly states that its AVR is suitable for four-ohm speakers (and, indeed, 16-ohm speakers), so you shouldn't be worried about using



Pioneer's SC-LX87 will comfortably drive low-ohm speakers

it with your MKs. If in doubt, though, double-check with your Pioneer dealer.

## We need to evolve

It seems to me that we are near a bit of a crossroads with the way

we watch films. We are finally at a point where, potentially, films could be watched in practically the same quality they were filmed in, and even leave room for filmmakers to catch up. This final step on the staircase to Nirvana

## ★ STAR LETTER...

## High-res audio still has quality issues

I hope Steve May's article (HCC #230) turns out to be true regarding the future of high-res audio but I have my doubts regarding the quality for a number of reasons.

After analysing The Rolling Stones' *Hot Rocks* (1964-1971) remastered album released by ABKCO Records from David Chesky's HDTracks website, I wasn't impressed. Yes, the album is 24-bit/176kHz but, shockingly, the album has been clipped. What is the point of having greater detail and all the benefits of high-res music if the dynamic range is going to be ruined?

ABKCO Records' own website states that for The Rolling Stones' remastered album series, 'Every effort has been made to... meet the highest audio standards

that exist today.' Well, their standards obviously differ from the entire audiophile community if they utilise clipping!

Clipping the dynamic range is done to make the track sound louder than the previous or next song. Surely high-res music isn't going to be used in such environments; it's aimed at audiophiles, and they unanimously want the exact full dynamic range of what was laid down in the studio.

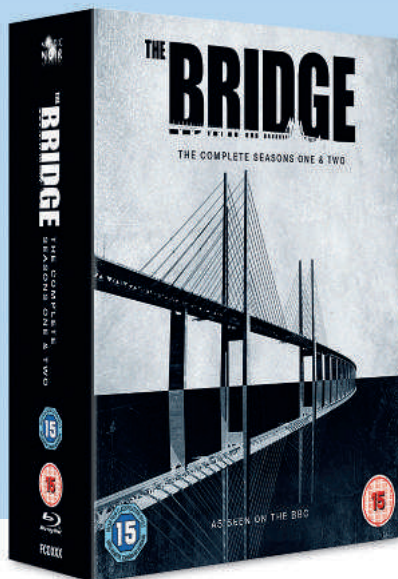
In addition, I've read reports about high-res music being sold that is upsampled 16-bit/44.1kHz. TV broadcasters have also admitted playing upscaled SD content on HD channels.

Finally, it's mildly annoying to hear Sony's John Anderson enthuse about

high-res audio when record labels owned by firms like Sony are taking an age to re-release their back catalogues (surprising as Sony lost the Betamax vs VHS war because they didn't have enough

content in the market and vowed never to let that happen again). I can understand their reluctance; they lose millions of pounds a year in revenue from illegal downloads and piracy. High-res music and especially Ultra HD-quality films are akin to giving away the master copies from the studios. But high-res audio has to be just that – otherwise audiophiles are going to remain ever dubious of their superior quality.  
*Kalwant Chaggar, Leeds*

**Mark Craven replies:** The hi-res audio revolution – if you can call it that – will certainly have its teething problems, including a lack of content, worries about upsampling, and the idiotic dynamic range 'loudness war' that has been blighting the





requires three things. One is almost certainly coming but the other advances needed have received much less coverage.

The three things we need are:

4K resolution. For a reasonable screen size viewed at a reasonable distance, including projectors, 4K resolution is enough that any higher resolution will bring minor benefits. Films are already shot at high resolution, and consumer equipment is available.

High frame rates. The 24fps standard for films simply isn't good enough to give good resolution during motion. This is especially noticeable during camera pans. 3D films suffer even worse than 2D from this outdated format. Consumer displays are capable of displaying high frame-rate material, but Blu-ray does not support it and, crucially, most films are shot at 24fps anyway. This needs to change.

Increased colour space. The 8-bit-per-colour standard Blu-rays are using was designed for CRT TVs in the '90s. Today's higher contrast displays would benefit from a 10- or even 12-bit-per-colour system which would allow higher dynamic range and more colour accuracy in the picture. I am most confused that Sony is talking

music industry for some time – our 'favourite' example being Metallica's *Death Magnetic* from 2008, which manages to sound exactly like one your speaker drivers has given up the ghost.

Audiophiles such as yourself will no doubt take all the marketing blurb and hyperbole with a pinch of salt, yet the industry is probably hoping that many consumers are less discerning and will simply appreciate anything that sounds better than their current collection of MP3s.

Star letter-writer Kalwant wins a copy of *The Bridge: The Complete Seasons One and Two* Blu-ray double-pack, which is available to buy now on Arrow Films' Nordic Noir label.

*The Hobbit: The Desolation of Smaug* again showcases HFR technology



about limiting the colour space of its TVs to support 60fps 4K content, while simultaneously advertising its Triluminos displays as having increased colour depth. Films are already shot with a wider colour space than Blu-ray allows, and current displays are capable of showing it.

For all this to come together we need a revised Blu-ray specification that allows for better colour, high frame rates and increased resolution. Consumer equipment then needs HDMI 2.0 along with 4K resolution and, finally, more films need to be shot at 48fps. It would make sense to introduce HFR and a wider colour space at the same time as 4K Blu-ray.

*Daniel, via email*

Mark Craven replies: We certainly agree with your first point – 4K resolution display hardware is needed because, as you point out, this resolution is available to content creators. The good news is, as you will see from our coverage of the recent CES tech show, 4K screens are preparing to flood the UK market, in sizes ranging from 49in all the way up to 105in. More choice when it comes to 4K projectors would certainly be appreciated, though.

Your second point is a little more contentious. 24fps material does struggle to

maintain absolute clarity with camera pans, but I think so many of us are used to this fact that it's ceased to be a niggle. Higher frame rates aren't everyone's cup of tea, particularly when it comes to movies, and the studios don't seem to be in a rush to make oodles of 48fps (or higher) content. For faster frame rates to become the norm rather than the exception will probably take decades, rather than years.

As for your third point, do note that Sony's newly announced 4K TVs sport 4K/60p-compatible HDMI 2.0 inputs, unlike last year's models, so the colour space fudge being employed for 60p material may need not apply. But, yes, it would be a step forward to see a wider colour space being utilised, as the technology is there.

Well, almost all of it – a 4K Blu-ray disc standard could offer all this (and more, in terms of audio) but has yet to be approved. Recent events (see *Digital Copy*, p77) suggest things could be moving in the right direction, though.

#### **I'm worried about wireless**

Have I been wasting my money? I can't believe what I have just read in HCC #229: 'WiSA sets your speakers free.'

I have been an audio/home cinema enthusiast since the

1970s, and have always been led to believe that I should never skimp on my speaker cables. Always spending the advised minimum of 10 per cent of the component on cables. Am I now to believe that it didn't matter what kind of cables I bought – cheap or expensive – as it appears that I won't need any cables attached to my expensive amplifier/receiver in the future, as they will send the signal to the speakers wirelessly. Please can you assure me that I haven't been wasting my hard-earned money on expensive cabling!

*Addie Booth, Wisbech*

Richard Stevenson replies: You really haven't been wasting your hard-earned cash, Addie, and good-quality speaker cable remains a vital component in a home cinema system. Wireless speakers have been around for some time and the reason they have not been widely developed >

#### **CONTACT US...**

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Please note: we cannot guarantee to print/answer all the letters we receive. Sorry.



by quality AV and hi-fi brands is that the concept creates a lot more problems than it solves.

As we cannot as yet wirelessly transmit enough power energy to drive a speaker cone, it is just the low-voltage signal that is being transmitted wirelessly. This means that each speaker needs to have both a wireless receiver and its own power amplifier to drive the speaker cones. This in turn means that each speaker in the system needs to be plugged into the mains, so truly 'wireless' they are not.

Putting an amplifier inside a speaker, otherwise known as an active speaker, does have advantages in terms of short signal paths, and most subwoofers fall into this active category. However, such speaker-mounted amplifiers are subject to the vibrations from the driver, and lack heat ventilation as most speakers are sealed or have just a single port. There is also an issue with RF shielding, as most speakers are

made of wood, not metal, so there is a very high chance of speaker 'hum' too.

Some of these factors can be worked around to create a good active speaker of course, like good subwoofers in fact, but high-fidelity incarnations of active speakers do not come cheap. And, while the concept would negate having an AV amplifier or receiver, you would still need an AV processor to control everything – and they are often more expensive than standard AV receivers!

There's also a factor at play in that most high-quality speaker manufacturers don't make amplifiers and visa-versa. Brands like KEF or Marantz tend to stick to what they are good at. So getting the best from any amp/



'Wireless speakers', such as Sonos' Play:5 still need to be wired for power

speaker combination often means mixing and matching products from different makers. Yes, subwoofers often come from speaker brands, but almost 100 per cent of amps found in these subs are standard 'off the shelf' modules, rather than electronics designed and built by the speaker maker. It is much more

difficult and expensive to design a good amp for 'full range' active speakers.

So fear not Addie, your speaker cables are not scrap copper just yet. For the foreseeable future, wireless speakers are not going to be making significant in-roads into quality home cinema equipment.

### Two centres become one

I hope to move soon and will need to create a new home cinema. I have in mind to split the centre channel information and have one centre below the screen and another above, this should then place the audio image smack bang in the middle of the screen. An additional expense, but a lot cheaper than an acoustically transparent screen – have you ever tried this arrangement? Terry Catlin, via email

Richard Stevenson replies: That is not something we have tried in a vertical arrangement, however most AV receivers will achieve

## Win! Three great Blu-rays up for grabs

Just email your answer to Competitions@homecinemachoice.com to be in with a chance



### Machete Kills

Danny Trejo and Robert Rodriguez have teamed up again for this over-the-top action sequel that explodes onto Blu-ray and DVD on February 17.

Thanks to Lionsgate Home Entertainment we've got five copies of the *Machete Kills* Blu-ray up for grabs. Simply answer the following question correctly to have a shot at winning one...

#### Question:

Robert Rodriguez also directed...?

#### Answer:

**A) Sin City B) Blade C) From Hell**

Email your answer with '**Machete**' as the subject heading – and include your postal address!



### Blue Jasmine

Woody Allen enjoyed the biggest UK box office opening weekend of his career with this comedy-drama starring Cate Blanchett – a feat that will no doubt be

repeated when *Blue Jasmine* lands on Blu-ray, DVD and Digital Download on February 17. To celebrate we have five copies of the film on Blu-ray to give away...

#### Question:

Actress Cate Blanchett plays which character in the *Lord of the Rings* films?

#### Answer:

**A) Gollum B) Gandalf C) Galadriel**

Email your answer with '**Jasmine**' as the subject heading – and include your postal address!



### Game of Thrones

Winter is coming and the only way to prepare is to pick up *Game of Thrones: The Complete Third Season* when it arrives on Blu-ray and DVD on February 17. The wizards

at HBO Home Entertainment have given us three copies of the Blu-ray to dish out.

#### Question:

Who is the author of the series of books that *Game of Thrones* is based on?

#### Answer:

**A) George R.R. Martin B) Robert E. Howard C) J.R.R. Tolkien**

Email your answer with '**Thrones3**' as the subject heading – and include your postal address!

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Anyone ever used centre speakers above and below the screen?

the same thing horizontally. If you set the centre channel speaker to 'none', the centre information is routed equally between the main left and right speakers, creating a phantom centre in the middle of the screen. The disadvantage of this, and why Dolby and DTS specify having a dedicated centre channel speaker, is that it tends to smear dialogue focus and will create the phantom centre sound in a different place depending on where you are sitting in the room.

Vertically speaking, a similar effect is achieved using height channels. The processing duplicates some of the centre-channel signal to the height speakers (among other shenanigans), drawing the point of dialogue above the centre channel speaker itself. The centre speaker still gets the lion's share of the signal to keep a check of dialogue focus, although using height channels does still 'smear' the dialogue to an extent. It's a bit of a trade-off but I think height-channel processing, raising the dialogue above the main centre speaker and creating a three-dimensional soundstage with other sound effects, rather outweighs the slight defocusing of dialogue articulation.

As for top and bottom centre channels, we are not sure how that will affect the dialogue. However, I'm not averse to trying it out...

#### Why not upscale audio?

Reading the article on high-res audio, it occurred to me that there

may be a gap in the market. Something which, if technically possible, would be jumped at by millions, perhaps tens of millions, who aren't audiophiles with pots of cash, but don't love their music any less. People like me, who although not old by any means, have physically passed the point where very high-quality sound is wasted on us, because we aren't actually able to hear the difference. But that doesn't mean we're deaf to improvements in general.

I have a very nice home cinema setup including KEF speakers, which if I'm honest I mostly use to listen to music streamed via a NAS drive. The majority of this music is in MP3 format. So, the innovation I would dearly love to see, and hear, is the audio equivalent to upscaling a standard DVD to 4K level. If this can be done for video, why not audio? Surely, some bright spark could work out how to put back what is missing? If improvements were made that I could discern, then bank balance permitting, I'd buy it tomorrow!

*Nathan Brazil, via email*

Richard Stevenson replies: The good news is that you can buy 'upscaling' audio technology tomorrow! Even better news is that some form of MP3-enhancing sound algorithm is available on almost all new AV receivers. Technologies like Pioneer's Advanced Sound Retriever or Denon's Compressed Audio Restorer are not just applying a tweak of EQ filters to make things sound a bit friskier – these systems aim to

though one's upper frequency hearing tapers off as we get older, our ability to define detail, timbre and timing within the audio spectrum that we can hear does not. Some of the UK's most respected hi-fi journalists are in their 60s and senior designers at many mainstream UK audio companies are in their 50s, 60s and 70s – so don't think it's game over for your audiophile hearing if there are more candles on your birthday cake than icing twirls.

#### I love my Roku!

I enjoyed your review of the Roku 3 media player (HCC #231), and, as an owner of a Roku LT, I would advise anyone to check out these gadgets. Since I bought the LT (for £50, although I see it's now cheaper) I've been surprised by how much I've gotten out of it. Mine is connected to an old Sony LCD TV in our kitchen, and we use it regularly for BBC iPlayer, Netflix and Spotify. The best thing about it is it's so easy to use – I'm the only member of our family with a real interest in tech, but everyone else has taken to the Roku like a duck to water! I wish other bits of kit were as simple. *Brian Martin, via email*

Mark Craven replies: Roku's interface, easy Wi-Fi connection and uncluttered handset certainly make it a doddle to get to grips with, and the LT is definitely a cheap way to 'smarten up' an old telly. But we should point out that Sky's Now TV box does almost exactly the same (minus Netflix and a few other rival services) for even less money.

Roku's LT streamer – cheap but oh-so cheerful





*The Amazing Spider-Man 2* is being filmed on 35mm, rather than digitally



### I feel short-changed!

In regard to the article in *HCC* #230 entitled *25 Blu-rays You'll Want to Buy in 2014*, I don't see how this title can be accurate with the limited info about most of the discs you have chosen for this wishlist.

It looks like around 15 of these movies are not on general cinema release so have no reviews yet, not to mention the general public voting with their money on what they like. So the quality of the movie script, acting, etc... are unknown. Also, the release dates for these discs are quite a way off, so little or no information is available about the quality of the transfer and

extras. Surely, if you are using press releases as one of your sources you know that you take the information in these with a pinch of salt, especially as these products are not out for months – and in some cases nearly a year – so specifications are changed.

Most of the others on the list show very little in the way of details about disc information with many words used in your editorial like 'possibly, probably, expect, should, rumours, fingers crossed, we reckon...'

In my view, a very sloppy article as a whole. Come on, you can do better.

*Mark Walters, via email*

**Mark Craven replies:** Thanks for the letter Mark, and we're sorry you didn't like the article. It was a preview piece, outlining the discs that we're most excited about getting our grubby mitts on this year. As such, and as you point out, some of the titles have yet to even have a cinema release, and there's no official information on what will be on any of the Blu-rays in terms of soundmixes or extras.

The article was therefore not based on press releases – these are only good for our news pages – but our opinions and previous experiences. We picked the fourth *Transformers* movie because earlier BD

releases from the franchise have delivered cracking AV, and Mark Wahlberg joining the cast should breathe fresh life into the robot-war action. The combination of Darren Aronofsky, Russell Crowe and millions of dollars of SFX is enough to whet our appetites about *Noah*, and the upcoming *Spider-Man* sequel intrigues us because director Marc Webb has turned his back on digital photography.

Next issue we roundup the 101 BDs everyone should own before they think about jumping ship to Netflix. Hopefully that will get your seal of approval ■





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# ARE YOU SITTING COMFORTABLY?

The most important part of your setup isn't your BD spinner or projector, it's where you sit. **Mark Craven** guides you through the options when it comes to home cinema seating >





Like *HCC* reader Tony Oxtoby, you may find traditional cinema-style chairs are your best option



**FROM A LACK** of legroom to unforgiving upholstery, we've all had a movie experience affected by an uncomfortable seat. At your local cinema this is just about sufferable, but in your own room it shouldn't be tolerated – spending thousands of pounds on AV hardware and software but ignoring where you park your fundament is home cinema heresy. The good news is that there are numerous options available, suited to most budgets and tastes, so before you start saving for a 4K projector, perhaps it's time for a seating upgrade...

## Premium propositions

The first thing to appreciate is that the dedicated seating featured in the professional installations showcased in *HCC* doesn't come cheap. Anyone hoping to snap up a row of full-size leather recliners for the price of a BD player is going to be disappointed. However, once you get your head around that and look at seating in the long-term, the value for money begins to become apparent. For instance, assume you'll be using your new luxury chair to watch three movies a week. That's

six hours. Over a year, 312 hours. A £1,000 recliner is therefore costing you just over £3 per hour – but over five years (the length of a typical warranty) it's a mere 60p-per-hour approx. And why stop at five years? A decent chair should last you much longer, as long as you're careful not to spill fizzy pop all over it, of course – that's where the drinks holders come in handy.

Renowned brands include the likes of FrontRow, Signature, Fortress Seating, Palladio and Cineak, all distributed in the UK by specialist dealers rather than your high street furniture shop. Prices can begin at around £800 for a manual reclining single seat if you stick to standard leather, more if you specify custom finishes where offered or want motorized control and other accessories.

With the various options offered by these dedicated brands it's straightforward to arrive at exactly the seating configuration you want. Signature seating employs a wedge piece to enable curved rows, while FrontRow's truly modular approach means you can mix and match twin seats, singles and left and right end pieces to create bespoke setups. Both Cineak and Fortress Seating sell cinema sofas with elongated bases – glamorous movie-watching beds in other words.

And, if you're really pushing the boat out, you can even get something really bespoke. Fancy a specialist chair styled to look like a Ferrari seat? No problem – you just need big pockets. Pulse Marketing, the UK distributor of Fortress Seating, was called upon to do exactly that, and designed an eye-catching model with carbon fibre-wrapped rear and side panels, and Alcantara fabric armrests and main seat. The price approached £15,000, although we're told 'this could have been reduced greatly if more affordable materials had been chosen.'

Team *HCC* has been fortunate enough to relax in these types of home cinema-specific chairs on

## £160 TO £16,000: FIVE SEATING SOLUTIONS TO CONSIDER

Put one of these in your sweet spot, sit back and relax...



### Fatboy Bean Bag

Lolling around on a giant bean bag might not be conducive to paying attention during a *Godfather* marathon, but this could be handy for guests when all the other seats are full, and allows you to sit in any position you want. It's 180cm long, though, so make sure there's room. It's available for £160 from John Lewis.



### Louie Recliner Chair

Sold by Argos for £270, this leather-effect fabric recliner comes in either chocolate or black finishes, and measures just short of a metre wide. It doesn't feature cup-holders or any other home cinema-specific niceties, but is certainly keenly priced.



### FrontRow Modular Seating

This 100 per cent full-leather electric recliner retails for £1,080. Measuring 93cm wide, it features dyed leather (rather than surface-sprayed) and can be specified with neat extras including cup-holder caps and a fold-out tray for your popcorn. Various colours are available, as are more affordable fabric/manual models.



### Cineak Strato Plus

A dual-motor recliner allowing you to independently control headrest and footrest, this premium modular offering also has a low-slung design perfect for two-tier setups. Available in numerous fabric and leather finishes. Pricing starts at around £4,000.



### Fortress Bliss Lounger

Is it a bed or a sofa? Who knows, but this luxurious slab of furniture is ideal for a big cinema room where you (and five other guests) want the option to really put your feet up. Cup holders and glitzy trim on the side arms complete the package. Prices start at a cool £16,000 approx, plus shipping from the US.



High-end seating is the perfect finishing touch to your room

## READY TO RUMBLE

D-Box seating isn't just available at a multiplex...

The notion of adding more to the cinema experience has been around for ages – a format war between AromaRama and Smell-O-Vision raged briefly in the 1950s – but the idea that's gained the most traction in recent years is D-Box. Using actuators mounted under seating, and working in tandem with specifically created 'motion codes,' it adds a genuinely impressive extra layer to a film-watching experience – albeit one that can take a while getting used to.

What separates D-Box from other motion transducers is those motion codes. A healthy slate of flicks has been released on Blu-ray carrying specific instructions on movements for a D-Box seat, rather than just basing it on soundtrack patterns. Close collaboration with Hollywood has also seen theatrical releases with D-Box codes – in the UK the Cineworld chain has rolled out the technology in some of its cinemas should you want to get a taste of what it's about.



A domestic D-Box system comprises an actuator (above) and a motion controller, hooked up via RJ45. The controller also connects to your BD spinner and has a 500GB hard drive that stores D-Box motion codes (downloaded from the 'net'). When a compatible Blu-ray is played, it recognises it and kicks the actuator into life. The actuator can be retrofitted to an existing chair, or you can get seats with D-Box integrated from brands including Fortress Seating, FrontRow and Cineak.

D-Box software releases include the obvious (action-heavy titles such as *Man of Steel*, *2 Guns* and *Fast & Furious 6*) and the not-so-obvious (*The Last House on The Left*...). Our advice is to import titles from the US, as UK provision is hit and miss.

### eBay (right) is your first stop for vintage cinema chairs

numerous occasions, and the feeling is always the same – pure comfort and luxury. So if you want the ultimate experience, and want to impress visitors, dedicated recliners ought to be at the top of your wishlist.

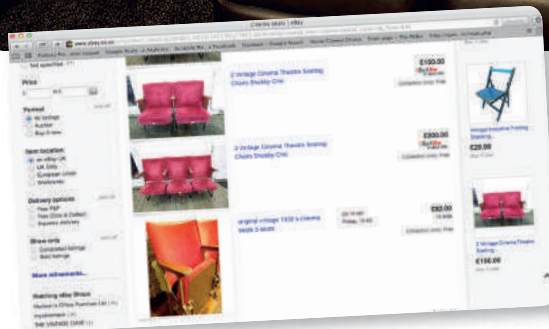
But there's a caveat, beyond budget considerations, and that's size. As an example, the Napoli by Palladio measures a full 820mm in width, and for some movie rooms – a garage conversion, perhaps – fitting more than two in a row could be problematic. Before buying any new seating, you need to measure up and consider how many people you want to be able to accommodate in your setup. Inviting your friends over for movie night will only be a success if there are enough chairs to go around.

An alternative, then, is more traditional-style cinema seats, even if they might look a little out of kilter with the rest of your setup. They are thinner, more affordable and better for rooms where space is at a premium.

Again, FrontRow seating is worth investigating here. Its Roma range begins at around £290 for a chair with standard fabric upholstery (in red, blue or black); velour and faux leather options bump up the price somewhat. A drinks holder is incorporated, and additional extras include headrests and chair plinths for a sleek mounting option.

### Going retro

If you're opting for that multiplex feel, then there's a healthy second-hand market in vintage seating. Get online and you can find all manner of Golden Age of Cinema chairs up for sale – eBay is a good place to start your search. How much you pay depends, of course, on whether there's a reserve price, how many other people are interested and the condition of what you're buying – and with the latter you should be prepared



to accept considerable wear and tear (including cigarette burns!). Clicking on Sold Listings gives you an idea of how much items are actually selling for – we found trios of early/mid 20th Century

seats had been snapped up for anything from £50 to £200.

Aside from the less-than-pristine condition of much hand-me-down seating, you need to consider whether they will actually be comfortable enough for you, will suit your room's décor and whether the bargain price is really worth it when you add in delivery or collection costs. Bear all that in mind and you might find just what you're looking for.

In fact, auction sites like eBay are also a great place to pick up modern cinema chairs at a reduced cost. Be prepared for a few scuff marks and, more often than not, organising your own collection, and you could pick up some luxury furniture that, for one reason or another, is no longer wanted.

### On the high street

If you want brand-new and have a tight budget, it's worth checking out regular high street retailers. Even Argos stocks comfy recliners that will do the job of imitating a high-end cinema chair without actually being one (and not being real leather), and for some installations a traditional sofa could fit the bill, particularly if your movie den doubles as a media room/entertainment space.

Whatever option suits you best, just make sure you're watching Blu-rays in comfort, not agony... ■

### For further info, check out:

Cineak: [www.couturedigital.com](http://www.couturedigital.com)

Front Row: [www.homecinema-seats.co.uk](http://www.homecinema-seats.co.uk)

Fortress: [www.pulsemarketing.com](http://www.pulsemarketing.com)

Palladio: [www.habitech.co.uk](http://www.habitech.co.uk)



Fortress Seating designed this Ferrari-themed cinema chair for a petrol-head customer



## FILM FRANCHISE

## Star Wars

We visit a galaxy far, far away to celebrate the sci-fi saga that changed the face of cinema

How did Darth Vader know what Luke bought him for Christmas? He felt his presents...



**ASK ANY HOME** cinema enthusiast born in the past half-century about their favourite films and chances are they'll pick at least one from the *Star Wars* franchise. As for the rest of them, it's a pretty safe bet that the original *Star Wars* trilogy (at least) can still be found in their disc collections.

So what is it about George Lucas's sci-fi saga that inspires such devotion in its fans, driving many to hang posters on their walls and horde tie-in merchandise in a way that would put a tween One Direction fan to

shame? For many it's the impact the first film had when it was released in 1977.

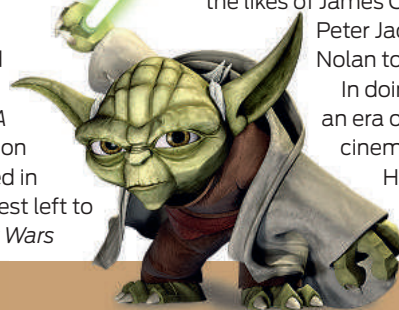
#### The power of the Force

Until the arrival of Lucas's space-going behemoth – and despite odd breakout hits like *Planet of the Apes* and *2001: A Space Odyssey* – science-fiction was still predominantly viewed in Hollywood as a niche genre best left to B-movie filmmakers. But *Star Wars*

turned that notion completely on its head, astounding audiences around the world with its groundbreaking special effects and inspiring the likes of James Cameron, David Fincher, Peter Jackson and Christopher Nolan to get behind the lens.

In doing so *Star Wars* ushered in an era of high-concept blockbuster cinema that still dominates Hollywood, and over the

*The Clone Wars* was a casualty of the 2012 Disney buy-out

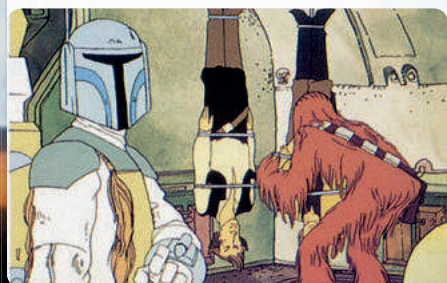






**Tasty-looking ship:** The final design of the Millennium Falcon was said to have been based on a half-eaten hamburger next to an olive on a toothpick – leading to design staff at the time calling it 'the Porkburger'

**Boba Fett:** The fan-favourite bounty hunter made his debut in a cartoon from the 1978 *Holiday Special* – and the 'toon can now be found hidden away in the *Star Wars: The Complete Saga* Blu-ray boxset



decades the franchise has continued to serve as a technical pioneer for the medium – particularly with regards to the shift to digital filmmaking and visual effects as evidenced in the prequel trilogy (and the Special Editions of the original trio).

Following Disney's purchase of Lucasfilm in 2012, and the promise of a new series of movies (beginning with J.J. Abrams' *Episode VII* in December 2015), you can expect the franchise to start using the Force on a new generation of cinemagoers very soon.

### PICK OF THE BEST...

#### 1 **Star Wars: Episode IV – A New Hope**

It may be getting ready to celebrate its 40th anniversary in three years time, but the first instalment in George Lucas's space adventure remains as brilliant as ever. Its power to dazzle – courtesy of spectacular SFX and great set pieces – is undiminished.

#### 2 **Star Wars: Episode V – The Empire Strikes Back**

Revered as the benchmark for all franchise sequels, this second *Star Wars* film puts Luke and chums through the wringer and bows out with a shocking revelation and a downbeat cliffhanger. Now that's how to leaves audiences gasping for more...

#### 3 **Star Wars: The Clone Wars – Seasons 1-5**

Lucas's long-awaited prequel trilogy may have disappointed some fans, but good did come out of it. Across five action-packed seasons this CG-animated series restored faith in the franchise with its intelligent storytelling and characterisation.

### AND THE WORST...

#### **Star Wars Holiday Special**

So bad that George Lucas has disowned it, this two-hour 1978 TV special features the film's heroes in a series of variety-show-style segments linked by Han and Chewie visiting the wookiee's family. While never repeated or officially released to buy in its entirety, curious/masochistic fans should have no trouble tracking it down online.

## COLLECTIBLES

No self-respecting Jedi can afford to miss out on these goodies...

### Vinyl-cape Jawa action figure



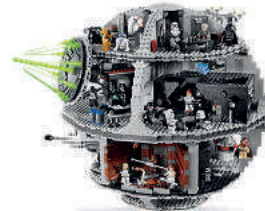
An early production change to the 1978 Jawa figure swapped its vinyl cape for a cloth one. The rarity of the original was demonstrated last year when one in UK packaging sold for £10,200 at auction to a North American collector.

### Darth Vader Force FX Lightsaber



Hasbro's official life-size replica of Vader's iconic lightsaber features a glowing red blade, four motion sensor-controlled sound effects and a display base. Not bad for £180.

### LEGO Star Wars Death Star



Recreate your favourite moments from parts IV and VI with this deluxe LEGO playset. Priced around £275, the Death Star consists of over 3,800 pieces and stands a whopping 410mm tall when finished.

### Han Solo in Carbonite Door Decal



Measuring 32in wide by 80in tall, and priced around £85, this giant sticker of Han frozen in Carbonite is the ideal size to decorate the door to your home cinema room. After all, if it's good enough for Jabba the Hutt...

## THE ULTIMATE COLLECTION...

You'll need these if you want to complete your collection of *Star Wars* discs

**Star Wars: Episode I – The Phantom Menace** (R2 DVD)

**Star Wars: Episode II – Attack of the Clones** (R2 DVD)

**Star Wars Trilogy [Gold Box – Full Screen]** (R2 DVD)

**Star Wars Trilogy [Silver Box – Widescreen]** (R2 DVD)

**Star Wars: Animated Adventures – Droids** (R2 DVD)

**Star Wars: Animated Adventures – Ewoks** (R2 DVD)

**Star Wars: Clone Wars – Volume One** (R2 DVD)

**Star Wars: Ewok Adventures** (R2 DVD)

**Star Wars: Episode III – Revenge of the Sith** (R2 DVD)

**Star Wars: Clone Wars – Volume Two** (R2 DVD)

**Star Wars: Episode IV – A New Hope Limited Edition** (R2 DVD)

**Star Wars: Episode V – The Empire Strikes Back Limited Edition** (R2 DVD)

**Star Wars: Episode VI – Return of the Jedi Limited Edition** (R2 DVD)



**Star Wars: The Clone Wars** (All-region BD)

**Star Wars: The Original Trilogy** (All-region BD)

**Star Wars: The Prequel Trilogy** (All-region BD)

**Star Wars: The Complete Saga** (All-region BD)

**LEGO Star Wars: The Padawan Menace** (All-region BD)

**Star Wars: The Clone Wars – The Complete Seasons 1-5** (All-region BD)

**LEGO Star Wars: Triple Pack** (R2 DVD)





**Him:** "I wonder if she's free later?"

**Her:** "I wonder when he's going to invite me to hear his REL T-7? I hear it goes down to 28Hz and really brings a system alive."

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# PLAYBACK

→ **SOFTWARE HIGHLIGHTS** **RUSH** Ron Howard's racing rivals deliver serious HD thrills  
**PAIN & GAIN** Muscular crime movie will leave you black and Blu **GAME OF THRONES** Third season of HBO's hit fantasy series seizes the AV crown **KICK-ASS 2** The swearing superheroes are back in action  
**PREDATOR 3D** Schwarzenegger's action classic gets a stereoscopic makeover **AND MUCH MORE!**



## Bullets 'n' babes

Machete Kills → Lionsgate → Region B BD

Robert Rodriguez dips back into the world of 'grindhouse' films for this spoof action sequel. Turn the page to see if the joke has worn out its welcome...

HCC RATINGS KEY...	
Outstanding	★★★★★
Above average	★★★★☆
Acceptable	★★★☆☆
Disappointing	★★★☆☆
Dire	★★★☆☆





Danny Trejo in a rare moment of 'not-butchering-someone-with-his-machete'

# Back to the grindhouse again

Robert Rodriguez's Latino antihero returns for a sequel that does exactly what it says on the tin

## → MACHETE KILLS

Robert Rodriguez's spoof trailer from 2007's *Grindhouse* seems to be the gift that just keeps on giving for fans of exploitation cinema. But while the first *Machete* served its main course of blood and babes with a side dish of commentary about immigration, this even more violent sequel has no such lofty pretensions.

This time around *Machete* (Danny Trejo) has been charged by the US President (Charlie Sheen) to assassinate Marcos Mendez (Demián Bichir), a schizophrenic revolutionary planning to fire a nuclear missile at Washington. Unfortunately, Mendez has had his trigger device wired to his heart, forcing Machete to keep him alive and race back to America in order to have it deactivated. And just to make things even harder, Mendez has put a bounty on his own head – which has attracted the interest of the man-hating Madame Desdemona (Sofía Vergara, with a Gatling gun bra) and the notorious hitman El Camaleón (Lady Gaga, Cuba Gooding Jr. and others).

Yes, *Machete Kills* is clearly complete trash. But as parodies of exploitation films go, Rodriguez's sequel is weirder, funnier, bloodier and ultimately more authentic than the tedious *Sharknado* and its ilk. And even if the joke has worn pretty thin by now, the *Machete Kills Again... In Space* trailer that opens this film looks goofy enough to have us coming back for more one last time.

**Picture:** Mercifully, outside of the opening trailer and main credits, *Machete Kills* eschews the whole



### HCC VERDICT

#### Machete Kills

→ Lionsgate → Region B BD  
→ £25 Approx

**WE SAY:** While the film itself will no doubt prove divisive, nobody can argue the merits of this striking hi-def platter

Movie ★★★★★

Picture ★★★★★

Audio ★★★★★

Extras ★★★★★

Overall ★★★★★

'faux-grindhouse' aesthetic and delivers the kind of razor-sharp, richly-saturated AVC 1.85:1 1080p transfer that really gets the best out of your setup.

Shot using Arri Alexa Plus digital cameras, the film's imagery is awash with vivid colours and exhibits a high fidelity throughout when it comes to rendering intricate detailing and deep, dark blacks. While banding raises its head on a few occasions in large blocks of solid colour, other technical issues such as excessive edge sharpening and compression artefacting are nowhere to be seen. In fact, Lionsgate's first-rate Blu-ray encode ensures that *Machete Kills* is one of the most spectacular-looking exploitation flicks you'll ever see.

**Audio:** The disc's DTS-HD Master Audio 5.1 soundtrack proves just as satisfying as its hi-def visuals, creating a seamlessly integrated aural environment packed full of positional effects and room-filling ambience. All of this is augmented by some pleasingly punchy low-end, which really helps sell the film's rather bombastic approach to on-screen violence.

**Extras:** Remember when Robert Rodriguez used to fill his discs with all sorts of great extras, from commentaries to cookery classes? Well, there's none of that here. Nor do we get either of the extras from Universal's US Blu-ray release (a *Making of...* featurette and a collection of extended scenes). Instead, Lionsgate's UK disc serves up two extremely short promo videos (*If Carlos Estevez Was President* and *Six Degrees of Robert Rodriguez*) alongside 40 minutes of cast and crew interviews.



## Prisoners

EntertainmentOne → Region B BD  
£25 Approx



Excellent performances from Jake Gyllenhaal and Hugh Jackman are the twin driving forces behind the success of

this morally murky thriller about two kidnapped children and a father willing to go to any length to find them. The dour nature of the story extends to the film's aesthetics, something that this Blu-ray handles very well with its nuanced AVC 1.78:1 1080p encode and brooding DTS-HD MA 5.1 soundtrack. It's just a pity that there are so few extras – all you get are a pair of short promo featurettes. But with the film clocking in at 153 minutes, maybe there just wasn't room for anything else.



## The Call

Warner Home Video → All-region BD  
£23 Approx



Halle Berry and Abigail Breslin star in this high concept thriller about a guilt-ridden 911 phone operator whose shot

at redemption comes when a kidnapped teen phones for help from the boot of her attacker's car. Sadly, while the setup is certainly gripping, the longer the film goes on the less convincing it becomes, and by the end the whole thing falls apart. Thankfully, the hi-def platter itself is a more consistent affair with crisp AVC 1.85:1 1080p imagery and moody DTS-HD MA 5.1 sonics. It also includes four brief *Making of...* featurettes and five deleted scenes (including an extended ending).



## How I Live Now

EntertainmentOne → Region B BD  
£25 Approx



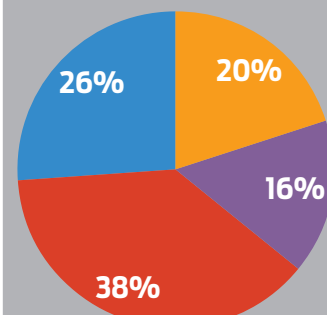
Adapted from the award-winning young-adult bestseller of the same name, this near-future thriller tells the story of an American teenager (Saoirse Ronan) trapped in the UK with relatives she hardly knows when war breaks out in Europe and the country is turned into a military state. While director Kevin Macdonald's bittersweet film doesn't pull any punches, it's also packed with strikingly beautiful images, which this Blu-ray's AVC 1.85:1 1080p transfer excels at recreating in the home. Extras are sadly limited to just a six-minute *Making of...* featurette and eleven deleted scenes.



## WE ASKED...

How many times did you go to the cinema in 2013?

- More than 12 times
- Between six and 12 times
- Less than six times
- I didn't go to the cinema last year



Results from [www.homecinemachoice.com](http://www.homecinemachoice.com)  
Go online for more polling action



# Michael Bay wants to get physical

Action director takes a break from blockbusters for a trio of bodybuilders gone bad

## → PAIN & GAIN

Based on true events, this flick tells the story of three bodybuilders – Daniel Lugo (Mark Wahlberg), Paul Doyle (Dwayne Johnson) and Adrian Doorbal (Anthony Mackie) – who decide that they deserve more from life than the hands they've been dealt. To this end they cook up a scheme involving kidnap and extortion, but it isn't long before things get completely out of hand...

Definitely not your typical crime flick, *Pain & Gain* is a slightly rambling black comedy that also happens to be the best thing that director Michael Bay has ever shot by some considerable distance. Utterly insane (all the more so for being based on real events) and packed with excellent performances, *Pain & Gain* is an blast from start to finish.

**Picture:** For the most part *Pain & Gain*'s AVC 2.40:1 1080p encode is a thing of pure beauty. Colours are every bit as pumped up as the film's leading men, blacks are invitingly inky and contrast is pitch perfect.

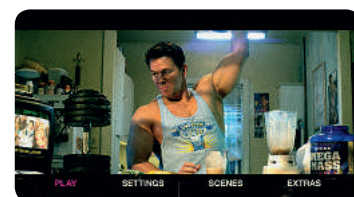
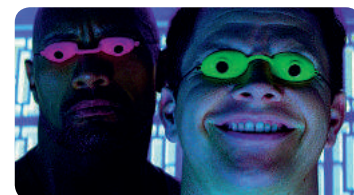
The imperfections that do occur are clearly source-related and have to do with the multitude of different cameras used to shoot the film rather than the technical quality of Paramount's disc. A prime example comes in the opening scene, where Michael Bay uses a small camera attached to Mark Wahlberg while he does sit-ups suspended from a wall; every time the camera pans up to the sky, horizontal striations can be seen running across the image.

However, these source-related issues are ultimately few and far between, and shouldn't dissuade anybody from giving this muscular hi-def presentation a spin.



**Audio:** Just because Michael Bay has taken a break from giving giant robots their marching orders doesn't mean that he's also dialled back on the dynamism we've come to expect from his movies' soundtracks. Paramount's Dolby TrueHD 7.1 track is brash and aggressive, packed with big potent bass effects and expansive imaging. Dialogue presentation is also excellent, clear and focused at all times.

**Extras:** The sole extra here is *The A Game: Making Michael Bay's Pain & Gain*, a 57-minute chronicle of the film's production split into eight sections. Covering most of the obvious bases (the true events, the principal cast, the director's methodology, locations, etc) it's a pretty thorough look at the making of the film – although you can't help but feel that it goes a little overboard trying to convince you what a big deal it was for Michael Bay to choose such a 'low-budget' (\$26million) project.



## HCC VERDICT

### Pain & Gain

→ Paramount → All-region BD

→ £25 Approx

**WE SAY:** Michael Bay's latest and greatest may have flopped at cinemas but should find plenty of fans on BD

Movie ★★★★★

Picture ★★★★★

Audio ★★★★★

Extras ★★★★★

Overall ★★★★★





DISC  
OF THE  
MONTH

Chris Hemsworth auditioned by video  
while shooting *Avengers Assemble*

# Ron Howard finds his race pace

Brilliant biopic takes us back to a time when 'the sex was safe and the driving was dangerous'



## → RUSH

Sexy. Thrilling. Frantic. Dangerous. These are the type of words used to describe Formula One racing in the 1970s. They're hardly the sort of words that immediately spring to mind when you think of the films of Ron Howard (More like: *Safe*, *Pair Of Hands*), however, which is why we worried when he was attached to this film about the legendary rivalry between F1 drivers James Hunt and Niki Lauda.

But we needn't have fretted. Whether it was working out of his comfort zone or merely the influence of cinematographer Anthony Dod Mantle, Howard has seemingly discovered a new lease of life as a filmmaker, bringing a swaggering sense of energy, style and danger to the film. It's a startling change of pace for the veteran director – and one that makes us wonder where this Ron Howard has been hiding all our life.

Of course, it also doesn't hurt that Chris Hemsworth and Daniel Brühl give absolutely

outstanding performances as Hunt and Lauda. And it's thanks to their endless charisma (not forgetting writer Peter Morgan's terrific dialogue) that *Rush* remains every bit as exhilarating away from the track as it does during the races.

**Picture:** *Rush*'s AVC 2.40:1 1080p encode might not quite make it into pole position for hi-def transfers, but it comes a very close second.

The palette pushes yellows, greens, blues and reds to the fore, all of which appear well saturated on this Blu-ray release (although minor instances of banding do arise from time to time – such as that seen in Lauda's red helmet as he gets into his Formula 3 car in Chapter 1). One knock-on effect of the colour timing is that blacks can sometimes look a little flat or show a blue tint, but again it's true to the source material.

Fine detailing is even more exciting, particularly whenever the film takes us into the cockpit alongside the drivers. The intricacy inherent in the close-up of Hemsworth's eye during the sequence where his team drill holes in his visor in the build up to the Japanese Grand Prix (Chapter 10) is enough to take your breath away.

**Audio:** From the very first minute, where the pre-race commentary slowly builds in volume through the rear speakers, it's easy to tell that no effort has been spared in creating a fully immersive soundscape for *Rush*. This impression is only enhanced a few minutes later when your subwoofer kicks into life, growling ferociously as those wonderfully powerful F1 engines start turning over.



The two leads weren't allowed to drive real Formula One cars, so they used Formula Three cars with fake bodywork



*Rush* uses a multitude of different types of camera to take you inside the action



## DEMO SCREEN...

## Rush

Time code: 065.39 – 071.29



**Wheel-to-wheel:** As the '76 German Grand Prix gets under way at the Nürburgring, Hunt and Lauda vie for first place with the roar of those glorious engines filling the entire 5.1 soundstage.



**Hitting the pits:** The need to switch from wet to dry tyres gives us a respite from the frantic action, allowing you to appreciate the transfer's intricate detailing and bright primaries.



**Pushing hard:** Thanks to a slower pit stop, Lauda has to push harder and harder in an attempt to catch up with Hunt again – and the elaborate sound design again impresses as it accompanies the action



**Dangerous curves:** Lauda's charge comes to a fiery end as he hits the barrier and his car bursts into flames. The picture and sound work superbly together to bring this difficult sequence to life

If it's no surprise that so much effort has been spent on the race sequences, the good news is that *Rush's* DTS-HD MA 5.1 mix also impresses elsewhere. The dialogue is always given the priority in the mix it needs, there's plenty of ambience across the soundstage in every location, and Hans Zimmer's score is brought to life with effortless musicality.

**Extras:** At first glance, StudioCanal's Blu-ray doesn't look like it has much to offer in the way of bonus material, with the Special Features sub-menu offering up just three options – *Race for the Chequered Flag: The Making of Rush*, *The Real Story of Rush* and *Deleted Scenes*. Thankfully, the first two of these house a series of featurettes providing a fair amount of insight into the film's production and the events and people that inspired it.

In *Race for the Chequered Flag...* you'll find 32 minutes of goodies in the form of an interview with writer Peter Morgan; a piece about casting Chris Hemsworth and Daniel Brühl; shooting the film; how the production team used one location to double for racetracks around the world; costume/production design; and a look at Ron Howard's approach to directing. Along the way there are interviews with all of the principal cast and crew, as well as some extremely choice soundbites from Niki Lauda.



The *Real Story of Rush* offers up three featurettes (totalling 19 minutes) looking at the story behind the movie. Here we learn about the real Hunt and Lauda, the F1 cars used in the film, and the rock 'n' roll life style that surrounded the sport in the '70s. And while none of the ten deleted scenes are truly essential, nor are they entirely superfluous either.

For those who want a more, Sainsbury's has an exclusive Blu-ray steelbook which includes a bonus disc of extras. Although not available for review, StudioCanal assures us it will include exclusive UK interviews with Ron Howard, Chris Hemsworth, Daniel Brühl, Olivia Wilde, Alexandra Maria Lara and Niki Lauda, a world premiere featurette and six additional behind-the-scenes vignettes.



Daniel Brühl wears a dental appliance in the film to mimic Niki Lauda's overbite



'Men love women. But even more than that, men love cars'



## HCC VERDICT

## Rush

→ StudioCanal → Region B BD

→ £25 Approx

**WE SAY:** We'd have appreciated a few more extras, but otherwise this disc comes top of the Blu-ray race

Movie ★★★★★

Picture ★★★★★

Audio ★★★★★

Extras ★★★★★

Overall ★★★★★

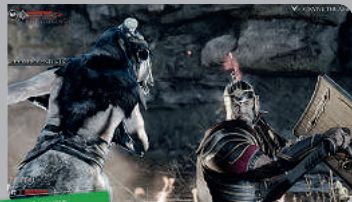


## ARCADE ACTION

Bigscreen home entertainment isn't just about movies anymore. Check out these two videogames vying for time on your home cinema system...

### Ryse: Son of Rome

Microsoft Studios/Crytek → Xbox One → £50 Approx



It's no coincidence that Xbox One launch title *Ryse: Son of Rome* references movies much more than games during its short but reasonably sweet running time. *Saving Private Ryan*, *Predator*, *300*, *Southern Comfort* and, inevitably, *Gladiator* are all liberally 'borrowed from' throughout.

The thing is, *Ryse...* is more of an interactive film than a game. It's far more interested in showing off the gorgeous graphics of the varied locations it dispatches your troubled hero to than it is in doing anything sophisticated with its hack 'n' slash mechanics.

We finished the game while mostly mashing just two buttons, basically.

However, provided you treat *Ryse...* as what it is rather than the *God of War* emulator that you may have wanted it to be, it's actually got plenty to offer. The dialogue, acting and story are unexpectedly compelling, the blood-drenched, amputation-filled combat has a hypnotic, satisfying rhythm to it when you're doing it right, and the graphical and audio quality is so consistently sensational that you can't resist playing on to witness the next AV treat.

Given its 'tech demo' presentation levels it's probably true that the Xbox One needs *Ryse...* more than you do. But while the game's appeal may ultimately be pretty shallow, it's still fun while it lasts.



### Dead Rising 3

Microsoft Studios/Capcom → Xbox One → £50 Approx



From TV hit *The Walking Dead* to Brad Pitt's blockbuster smash *World War Z*, modern culture has been treating zombies way too seriously lately. So it's brilliantly refreshing to see *Dead Rising 3* gleefully treating them as nothing more than fodder for the most outrageous range of weapons ever found in a game.



There's a story of sorts underlying the zombie-slaughtering hilarity, involving finding other survivors and escaping from the 'infected' city of Los Perdidos before it's firebombed. But the game never loses sight of its *raison d'être*: providing gamers with a large sandbox

stuffed with tens of thousands of zombies for mowing down with vehicles or any physical object you can find, no matter how absurd. All while wearing a barmy array of outfits. Including a gimp suit.

While *DR3*'s visuals lack the texture polish of other Xbox One titles, its innovative SmartGlass app features and delivery of a city carpeted with fully-animated, surprisingly varied-looking zombies ensure it's definitely a next-gen experience.

There are frustrations. It's initially overwhelming, there's only one save slot (though purists will likely applaud this) and some may argue it's a one-trick pony. But for us this trick is so infectiously delivered that *DR3* is arguably the best – certainly the most fun – next-gen game so far.



## Breaking Bad: The Final Season

Sony Pictures → Region A/B BD  
£30 Approx



Now this is how you bring a TV show to a satisfying end: eight episodes of superbly written and acted drama that don't waste a single second of screen time as they bring the curtain

down on what has been the most consistently brilliant show of the past few years. Sony's two-disc Blu-ray set doesn't disappoint either, cooking up crisply-rendered AVC 1.78:1 1080p encodes, powerful DTS-HD MA 5.1 soundtracks and a plethora of terrific extras (including a wonderful alternate ending).



## Bates Motel: Season One

Universal Pictures → All-region BD  
£30 Approx



While this TV drama about the formative years of a young Norman Bates naturally owes a great debt to Alfred Hitchcock's *Psycho*, it's really far more of a spiritual sibling to David

Lynch's legendary *Twin Peaks*. As for this two-disc Blu-ray set – the show's stylish cinematography holds up very well, with each hi-def platter hosting five richly-detailed 1.78:1 1080p encodes. Aiding these are classy DTS-HD MA 5.1 mixes that add plenty of atmosphere. Extras take the form of deleted scenes and a 50-minute Q&A with the main cast and crew.



## The Tunnel

Acorn Media → All-region BD  
£30 Approx



Based on the hit Scandinavian crime series *The Bridge*, this Franco-British co-production relocates the action to the Channel Tunnel. Don't let its status as a remake put you off

– this is brilliant TV that even fans of the original should enjoy thanks to the high quality of the writing, acting and production. Unfortunately, this set is compromised by only offering 'lossy' 5.1 mixes alongside its LPCM stereo tracks. At least we have no complaints about the 1080i imagery.





What the difference between Twitter and *Game of Thrones*? With Twitter you only get 140 characters...



# It's a nice day for a red wedding

HBO's fantasy series upsets the apple cart once again with more shocking twists and turns

## → **GAME OF THRONES: THE COMPLETE THIRD SEASON**

If we had any complaint about the second season of HBO's epic fantasy series, it was that the myriad plots and new characters never really seemed to coalesce, giving it a slightly aimless feeling at times.

Incredibly – despite introducing even more new plots and characters – this third season does a much better job of balancing all of its constituent parts, resulting in ten episodes of almost flawless TV. And, just when you're finally getting comfortable with it all, the show pulls the rug out from under you with one of the most shocking twists in its history: reminding you once again that in this so-called 'game of thrones' absolutely nobody is safe.

**Picture:** Once again limiting itself to a maximum of three episodes on a disc (but most frequently just two), HBO ensures that every AVC 1.78:1 1080p encode in this five-disc set is a cracker.

From the bleak, icy wastes beyond The Wall to the sun-kissed cities of Slaver's Bay, this Blu-ray release never falters in replicating each vibrant primary, impenetrable black, crisp white and any conceivable hue or shade in between. Detailing is also exquisite, putting many modern movie releases to shame. It gets a little boring having to repeat ourselves every year, but once again *Game of Thrones* looks simply perfect on BD.

**Audio:** Right from the opening of the first episode, with the sound of battle rising up in the speakers

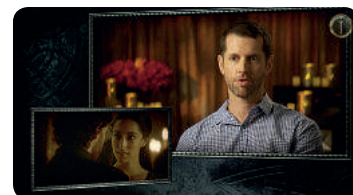


against a black screen, it's easy to see how vital the sound design is to *Game of Thrones*' success. As with the previous two seasons, these new DTS-HD MA 5.1 mixes are magnificent, mixing power and precision with astonishing ease, never missing an opportunity to bring the soundstage into play to give the series an epic feel.

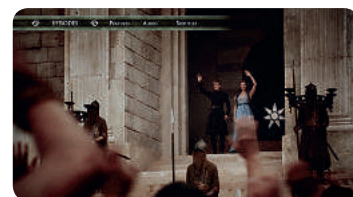
**Extras:** As usual, all ten episodes are accompanied by an interactive In-Episode Guide. All of the episodes bar the first are also accompanied by commentaries (two in the case of episodes three, six and nine) featuring various combinations of the cast and crew. And, yes, this does include the irrepressible Sophie Turner, Maisie Williams and Isaac Hempstead-Wright, back with another of their unique chat tracks.

Also included are five deleted scenes and a trio of fairly self-explanatory featurettes: *New Characters* (10 minutes), *Inside the Wildings* (six minutes) and *The Politics of Marriage* (nine minutes). The *Roots of Westeros* database returns alongside 16 new *Histories & Lore* animated vignettes.

Best of all, though, is *The Rains of Castlemere Unveiled*, a picture-in-picture version of the season's pivotal ninth episode that is packed with interviews and behind-the-scenes footage. It also contains links to additional scene-specific interviews and gives you the choice of three different ways to watch the 'red wedding' – uninterrupted, continue the PiP, or watch further interviews with the producers about the scene's importance to the entire saga.



Go behind-the-scenes of the red wedding with the set's picture-in-picture extra



### HCC VERDICT

#### Game of Thrones: The Complete Third Season

→ HBO Home Entertainment

→ All-region BD → £45 Approx

**WE SAY:** A triumphant HD set for the fantasy show's finest season to date

Movie ★★★★★

Picture ★★★★★

Audio ★★★★★

Extras ★★★★★

Overall ★★★★★ >



## Doctor Who: The Moonbase

BBC Worldwide → R2 DVD  
£20 Approx



Unless another cache of missing episodes turns up we're now in the home stretch of classic *Doctor Who* DVDs. This

Patrick Troughton four-parter from 1967 marked the second appearance of the Cybermen and helped cement the 'base under siege' style of production. The two surviving episodes have been lovingly restored for this DVD and joined by two gorgeous new animated reconstructions of the missing episodes. Superb extras include commentaries, info-text on the two surviving episodes, a half-hour *Making of...* doc and a photo gallery.



## Bullet Ballet

Third Window Films → Region B BD  
£23 Approx



This fifth feature by cult Japanese director/actor Shinya Tsukamoto marks a halfway point between the frenetic

punk aesthetic that typified his early work such as *Tetsuo: The Iron Man* and the more introspective nature of later films like *A Snake of June*. Restored from Tsukamoto's original black-and-white 16mm negatives, *Bullet Ballet*'s AVC 1.78:1 1080p visuals exhibit very little wear and tear and look authentically grainy. The DTS-HD MA 2.0 mix also holds up to close scrutiny, coping well with the pounding industrial noise that dominates large sections of the film's sound design.



## John Dies at the End

Eureka! Entertainment → Region B BD  
£13 Approx



Don Coscarelli isn't what you'd call the most prolific filmmaker (his last was 2002's *Bubba Ho-Tep*), but his films are always worth the wait. Coming across like the ungodly love child of Joe R. Lansdale and H.P. Lovecraft, *John Dies...* is a typically brilliant, but bonkers, fright flick featuring inter-dimensional invaders, a monster made from freezer meats and a telepathic dog. While the film's weirdness extends to an occasionally unwieldy Blu-ray menu layout, this hi-def platter fares rather well with strong AVC 1.78:1 1080p visuals, lively DTS-HD MA 5.1 sonics and plenty of bonus features.



## You're Next

Lionsgate → Region B BD  
£25 Approx



*The ABCs of Death* and *V/H/S* alumnus Adam Wingard turns the home invasion sub-genre on its head with this smart

tale of a family under siege from a group of masked murderers who discover that one of their intended victims is even more deadly than they are. If the naturalistic lighting means that Lionsgate's AVC-encoded 2.40:1 1080p transfer looks pretty drab, the clarity and delineation still impresses. Likewise, the DTS-HD MA 5.1 mix is an enjoyably spooky affair that makes full use of your speaker setup. Two commentaries and a 12-minute *Making of...* are also included.



# Half-baked sequel isn't so super

Potty-mouthed heroes don't feel quite as fresh and exciting second time around

## → Kick-Ass 2

Gorier and darker than its predecessor, this sequel to Matthew Vaughn's 2010 superhero action-comedy lacks the magic spark that made the original so much fun, and instead seems content to simply reheat familiar gags and cover it all in teen angst.

This is a real shame because there are plenty of fun ideas on offer, from *Kick-Ass* (Aaron Taylor Johnson) joining a group of like-minded costumed vigilantes to Hit-Girl (Chloë Grace Moretz) trying to adjust to life in high school. But for some reason, *Kick-Ass 2*'s story never quite comes together; it feels like a series of set-pieces padded out by meandering and repetitive sub-plots. It's not unwatchable, but considering the highs reached by its predecessor, many fans will be disappointed.

**Picture:** Framed at 2.40:1 and encoded using the AVC codec, Universal's 1080p presentation features none of the colour boosting that marred the original's BD debut. Instead, we get a transfer packed with glossy primary colours and which exhibits excellent clarity throughout. This last fact does tend to expose some of the film's obvious shortcomings when it comes to visual effects – most notably the CG diarrhoea during Mindy's canteen showdown with her high school nemesis.

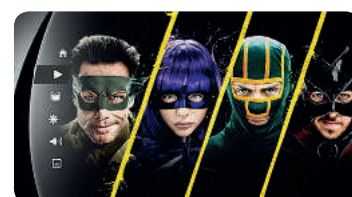
**Audio:** *Kick-Ass 2*'s DTS-HD Master Audio 5.1 soundtrack is more satisfying than its visuals. As you'd expect from a film that frequently involves people punching or shooting one another, the mix is an energetic affair that likes nothing better than immersing the viewer in the on-screen mayhem. So whether it's Mother Russia wiping out a string of cop



cars in a suburban street (Chapter 14), a shootout at a funeral (Chapter 16) or the final showdown between the armies of heroes and villains (Chapter 18), you can rest safe in the knowledge that this Blu-ray's lossless mix renders them with plenty of power and laser-like steering.

**Extras:** For Universal Pictures' disc, actors Aaron Taylor-Johnson, Chloë Grace Moretz and Christopher Mintz-Plasse join writer/director Jeff Wadlow for a fairly conversational audio commentary. And Wadlow also does solo duty on the optional commentaries for the BD's alternate opening, eleven extended scenes and storyboards for an unshot sequence featuring Big Daddy.

Also found on the Blu-ray are a five-part *Making of...* documentary (49 minutes in total) and a breakdown of Hit-Girl's van attack, allowing you to choose between watching it as a storyboard animatic, stunt previz or the finished sequence.



## HCC VERDICT

### Kick-Ass 2

→ Universal Pictures

→ All-region BD → £25 Approx

**WE SAY:** It may be a less-than-super sequel, but *Kick-Ass 2* outdoes the original in the AV stakes on Blu-ray

Movie ★★★★★

Picture ★★★★★

Audio ★★★★★

Extras ★★★★★

Overall ★★★★★



# ROCK STEADY...



Since its inception, home theatre has presented tasks to high-end audio designers that challenge them in ways not seen before in a two-channel, analogue milieu. Digital surround sound processing directly confronted traditionalist music lovers, too, who felt that it compromised the purity of true high-end performance.

The wizards at Krell responded with a "clean sheet" approach, by delivering home theatre control centres to satisfy all purist criteria. The Foundation 7.1-Channel AV Processor is the latest in that long line, offering everything needed to master today's myriad viewing formats – from Blu-ray to 3D pass-through to TVs with built-in streaming – while maintaining Krell's exacting standards for analogue audio reproduction.



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Metallica frontman James Hetfield:  
don't make him cross



# Masters of 3D moviemaking

This concert BD from the thrash metal legends will astonish fans – and confuse everyone else

## → **METALLICA: THROUGH THE NEVER 3D**



### HCC VERDICT

**Metallica: Through the Never 3D**

→ EntertainmentOne

→ Region B BD → £25 Approx

**WE SAY:** If you like throwing horns and dazzling 3D, then this will be right up your street

Movie ★★★★★

Picture ★★★★★

Audio ★★★★★

Extras ★★★★★

Overall ★★★★★

Since forming in 1981, genre icons Metallica have never shied away from innovation. Yet even devoted fans probably didn't expect them to release a 3D concert movie that mixes show footage with a side-story concerning a young stagehand called Trip (Dane DeHaan), street riots and the destruction of the lighting/sound rig by mysterious forces...

The result is decidedly weird, but captivating at the same time. Director Nimrod Antal (*Predators*) brings cinematic flair to the 'story' and the concert footage is sublimely edited. As for the band, they cement their reputation as kings of the arena, hurtling through a catalogue of metal anthems and backed up by the most impressive stage show ever conceived. Don't believe us? Check out the array of Tesla coils sparking to life during *Ride The Lightning*.

**Picture:** Entertainment One's two-disc release includes both 3D and 2D versions, and you should stick to the former if you can, as *...Through the Never* was conceived from the beginning as a 3D showcase.

As stereoscopic transfers go, this a real eye-opener – live music Blu-rays never usually look this good. Helped by Metallica playing 'in the round' and Antal's multi-camera setup, the 2.40:1 Full HD image exudes a sense of depth that puts you right there in the front row, headbanging with the rest of the long-hairs. Nor is it a static experience; the camera fizzles around the arena, framing the band members

against their high-tech backdrops so they look like larger-than-life rock gods.

It's a crisp presentation, too – the only unwanted noise coming from amplifier feedback, and the searing colours of the ultra-expensive lighting rigs contrasting vividly with the black recesses of the venue. Close-up shots of James Hetfield snarling into his mic are packed with detail.

The only area where the picture disappoints is in the additional footage of Trip's otherworldly adventure. Oddly, these staged sequences are where the 3D is at its most limited.

**Audio:** Vitally for a concert movie, the disc's DTS-HD MA 5.1 mix is brutally efficient. Metallica's twin guitars blast out of the mid-range with raw force, the rhythm section is delivered tight and full and the surround channels are in constant use, adding both crowd noise and extra layers of PA. During the outdoor sequences it quietsens down, but still impresses with clean Foley effects and eerie ambience.

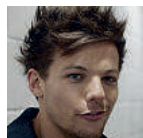
**Extras:** The standout extra here is the feature-length *Making of...* documentary, which is essential viewing. Showing the same honesty and access-all-areas ethos that marked Metallica's earlier *Some Kind of Monster* doc, it provides a thrilling account of how the band conceived the idea for a 3D concert flick, how it quickly became more elaborate than originally planned, and how they worried whether it would ever make financial sense.

In addition to this, there's a trailer, *Master of Puppets* music video, film festival Q&A with Metallica, Antal and DeHaan, and more.



## 1D: One Direction – This is Us in 3D

Sony Pictures → Region B/C BD  
£28 Approx



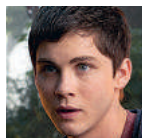
This 'all-access' look at life on the road for the pop phenomenon ends without answering the biggest question of

them all – how exactly did the former controversy-magnet Morgan Spurlock go from the likes of *Super Size Me* to bland corporately-approved fodder such as this? But even if it fails to shed any new light on the boys themselves, the concert footage looks sensational in 3D on Blu-ray and the accompanying DTS-HD MA 5.1 mix is no slouch either. As well as two cuts of the film, the Blu-ray also includes a medley of extras for fans to devour.



## Percy Jackson: Sea of Monsters 3D

20th Century Fox → All-region BD & Region A/B BD → £28 Approx



The first Percy Jackson film was one of the better Harry Potter knockoffs, but we doubt many people spent the past three years hoping for a sequel.

Still, that's what we've got – and what a feeble affair it turns out to be, lacking the sparky dialogue that kept viewers interested between the CG-heavy action scenes. It also struggles to convince as a 3D proposition thanks to how dull much of the movie looks; in 2D it seems rather more attractive. Fittingly, the disc's meagre extras are just as forgettable as the main feature itself.



## The Croods 3D

DreamWorks → Region B/C BD & Region B BD → £28 Approx



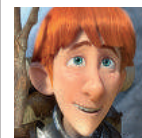
A combination of spirited humour and inventive design ensures that DreamWorks' caveman 'toon is

significantly more fun than either of the duffers Pixar served up in 2013. Unsurprisingly, the CG animation works very well in 3D, with the MVC 2.40:1 1080p encode revealing plenty of depth and some good examples of negative parallax with floating embers and other airborne particles. The 2D AVC version is even better, looking slightly sharper and a touch more detailed. Both versions sport a thrilling DTS-HD MA 7.1 mix that really brings the prehistoric world to life.



## Justin and the Knights of Valour 3D

EntertainmentOne → Region B BD  
£25 Approx



Not even an all-star voice cast including Antonio Banderas, Charles Dance and Saoirse Ronan can save

this sub-*Shrek* medieval 'toon. So banal that it's only real audience will be the most undemanding kids, we doubt many buyers will actually make use of the Blu-ray's optional 3D mode, which is a shame as the stereoscopic MVC 2.40:1 1080p visuals add some much-needed dynamism to the otherwise sharp-but-bland animation. The disc also offers a rather modest DTS-HD MA 5.1 mix, an hour of interviews and four featurettes.



# Hunting for a good hi-def transfer

Is the wait finally over for an authentic-looking Blu-ray outing for one of Arnie's best?

## → PREDATOR 3D

A wild mix of action, horror and sci-fi genres, *Predator* remains one of Arnold Schwarzenegger's best-loved films. And with damned good reason...

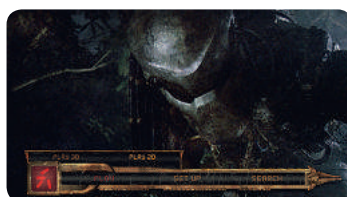
First of all there's the ridiculously testosterone-fuelled cast (including Jesse 'The Body' Ventura, Carl 'Apollo Creed' Weathers and Sonny 'Total Nutjob' Landham). Then there's the endlessly quotable dialogue ('Ged to the choppah!') and the brilliant tonal shift from traditional '80s action flick to stalk 'n' slash mayhem at the end of the first act.

But above all of this is the Predator itself. Second only to H.R. Giger's *Alien*, Stan Winston's mandible-jawed, dreadlocked, extra-terrestrial big-game hunter is a masterpiece of creature design that has never been bettered (not even in the film's own sequels and spin-offs). All this only serves to make the movie's treatment on BD all the more frustrating. Surely this a case of third time lucky for fans...

**Picture:** For this 3D conversion Fox has returned to the same DNR-scrubbed hi-def master that was used as the basis for the studio's 2010 'Ultimate Edition' Blu-ray platter – albeit now opened up from the original 1.85:1 framing to 1.78:1.

The 3D itself is every bit as hit-and-miss as you'd expect. McTiernan's habit of framing shots through foliage works well on occasion, but the fact is that much of the film is so dark (and is made even more so by 3D spex) that it robs the image of any attempt at creating dimensionality.

The 3D platter can also be played in 2D – which seems utterly redundant as the equally disastrous 'Ultimate Edition' disc is also included in the pack.



What we'd like to do to the people behind this DNR disaster

## HCC VERDICT

### Predator 3D

→ 20th Century Fox  
→ All-region BD → £28 Approx

**WE SAY:** It may have been given a 3D makeover but *Predator* remains an ugly proposition on Blu-ray

Movie ★★★★★

Picture ★★☆☆☆

Audio ★★★★★

Extras ★★★★★

Overall ★★☆☆☆

**Audio:** Both Blu-ray platters feature the same DTS-HD MA 5.1 remix. While not as gung-ho as most modern action movies, the track does a good job of spreading Foley effects around the soundstage to immersive effect. Bass response also fits the bill rather well, with some solid low-end accompanying explosions and the switch to the Predator's thermal vision during its point-of-view shots. However, the biggest beneficiary is Alan Silvestri's memorable score, which has never sounded better.

**Extras:** The 3D disc features no extras whatsoever – which is presumably why Fox throws in a copy of its 2010 Ultimate Edition platter as well. On this you'll find audio and text commentaries, a half-hour *Making of...* (plus four extra interview snippets that presumably didn't fit in the main documentary), seven additional behind-the-scenes featurettes, a deleted scene, outtakes, special effects tests and some promo featurettes for *Predators*.





# Silent classic soars to new heights

Stunning restoration ensures this award-winning war film dazzles on Blu-ray

## → WINGS

Mixing together epic action spectacle and romantic melodrama to tell a story of two World War I fighter pilots in love with the same woman, William Wellman's *Wings* is in many ways the silent film equivalent of Michael Bay's *Pearl Harbor*. The difference is that Wellman's film actually features characters we care about as well as astonishing eye-candy – no wonder that it went on to scoop the first ever Academy Award for Best Picture.

**Picture:** Eureka's AVC 1.33:1 1080p encode draws upon the restoration produced for Paramount's 2012 US release and we couldn't be happier with the results. Print damage is rarely an issue, detailing is exquisite and the colour tinting appears wholly authentic – right down to the digital recreation of the Handschiegel colour process used for the orange flames and bursts of gunfire. It's as close to perfection as you could possibly hope for.

**Audio:** Some prints of *Wings* were released into cinemas in 1927 with a synchronised soundtrack that included both J.S. Zamecnik's score and sound effects. As part of the recent restoration process, legendary sound designer Ben (Star Wars) Burtt was hired to oversee and help recreate this effect for a new 5.1 track. The result is marvellous, combining rich musicality with effective directional effects as engine sounds and gunfire move across the soundstage.

If we have one minor concern, it's that the track is presented on Eureka's disc in DTS-HD HR 5.1, as



opposed to the DTS-HD MA 5.1 version that appeared on the US release. However, while that Blu-ray could only manage to rustle up a lossy Dolby Digital 2.0 incarnation given a boost to LPCM 2.0 by Eureka.

**Extras:** The disc-based extras are all sourced from Paramount's US release and take the form of a 26-minute retrospective documentary, a 14-minute look at the restoration process and a slightly superfluous 13-minute piece about the evolution of aerial combat. However, Eureka's package also includes another of its fantastically informative booklets, containing essays about the film and an interview with director William Wellman.

## HCC VERDICT

### Wings

→ Eureka! Masters of Cinema  
→ Region B BD/R2 DVD → £23 Approx  
**WE SAY:** This award-winning silent film takes flight on Blu-ray courtesy of an astonishing AV restoration

Movie ★★★★★

Picture ★★★★★

Audio ★★★★★

Extras ★★★★★

Overall ★★★★★

## The Epic of Everest

BFI → All-region BD/R2 DVD  
£20 Approx



This remarkable 1924 film documents the tragic attempt to conquer Everest that resulted in the deaths of George Mallory and Andrew Irvine. While the film's treatment of the Tibetan

locals makes for rather uncomfortable viewing, there's no denying that it stands as a powerful testament to the climbers and the mountain itself. The BFI's AVC 1.33:1 1080p restoration still exhibits damage and instability, but also reveals a wealth of detailing thanks to the improved clarity. A recreation of the original musical accompaniment (LPCM 2.0) is joined by a new score by Simon Fisher Turner (DTS-HD MA 5.1/LPCM 2.0).



## The Long Goodbye

Arrow Academy → Region B BD  
£23 Approx

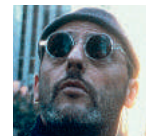


Raymond Chandler's most famous literary creation – private investigator Philip Marlowe – is reborn as a moral man adrift in a self-obsessed world he doesn't fit into ('70s Los Angeles) in Robert Altman's revisionist take on the genre. It's a wonderful film – one of the director's best – and this BD certainly does it proud. Arrow's AVC 2.35:1 1080p encode excels at replicating the film's desaturated visuals, while the LPCM mono track is as good as you could hope for. The disc also packs in plenty of great extras, including an isolated score, interviews and a 1996 TV documentary about Altman's career.



## Leon: 20th Anniversary Edition

StudioCanal → Region B BD  
£25 Approx



Those of you who weren't exactly thrilled with the original 2009 Blu-ray release of Luc Besson's acclaimed action film are unlikely to find much to celebrate about this new 20th anniversary release. Like its predecessor it boasts two cuts of the film and seems to be based on exactly the same masters, judging from the AVC 2.35:1 1080p imagery's pushed yellow hues and boosted contrast. Amazingly there are even less extras this time around – just short interviews with Jean Reno and composer Eric Serra. But it does come in a very snazzy steelbook...







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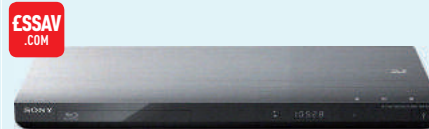


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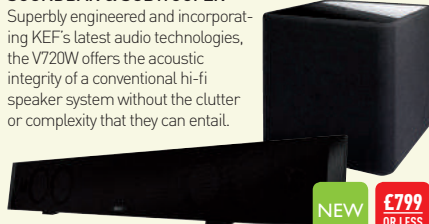
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**Features:** Profigold toslink male to toslink male digital optical cable.

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PROA5603 3m £19.39	PROA5605 5m £20.42



# SELECT

→ **GEAR GUIDE** **TELEVISIONS** From entry-level 40in LEDs to flagship monster plasmas  
**BLU-RAY PLAYERS** Which deck rules the roost? **PROJECTORS** It's time to blow up your video!  
**AV RECEIVERS** 5.1, 7.1, 9.2 – we've got all the options covered **SPEAKERS** Killer surround sound setups  
for all rooms and budgets **PVRs** Including super-slim Freeview boxes and Sky+HD **AND MORE!**



**NEED  
NEW  
SPEAKERS?**  
Our **Top 10**  
guide is here  
to help

**HCC RATINGS KEY...**

Outstanding	★★★★★
Above average	★★★★☆
Acceptable	★★★☆☆
Disappointing	★★☆☆☆
Dire	★☆☆☆☆



## TOP 10 TELEVISIONS

All prices are approx and may have changed

**Samsung UE55F9000** → £3,300

★★★★★

After debuting with a £35,000 85in beast, Samsung enters the sensible Ultra HD TV arena with an absolute star. This neat-looking 55incher offers superb upscaling of regular HD sources and immersive active 3D. *HCC #226*

**Sony KDL-40W905A** → £1,400 ★★★★★

Flaunting the brand's new Triluminos edge LED lighting, this set majors on a startling colour performance, plus crisp delineation and authentic black levels. Pricey, but worth it. *HCC #222*

**Panasonic TX-P60ZT65** → £3,800 ★★★★★

This plasma lives up to its 'Beyond Reference' billing, with the best 1080p picture in town – imagery is effortlessly cinematic. But at this price, you might want 4K... *HCC #223*

**Samsung PS64F8500** → £3,000 ★★★★★

A new panel design has given Samsung's plasma tech a much needed injection of brightness and contrast. The result is a premium bigscreen display that constantly wows. *HCC #221*

**Samsung UE46F8000** → £1,800 ★★★★★

The F8000 tops Samsung's LED lineup (if you exclude the £35,000 S9 Ultra HD set) and is a consistently good performer. Bright, vivid images married to a super-stylish design. *HCC #221*

**Sony KDL-65X9005A** → £5,000 ★★★★★

The first 'affordable' Ultra HD screen we've tested, Sony's 65in next-gen panel is a cracker, offering pin-sharp visuals and brilliant Passive 3D. Blacks aren't best-in-breed, though. *HCC #230*

**Panasonic TX-L65WT600** → £5,400 ★★★★★

With its HDMI 2.0 and DisplayPort hookup, this is the 4K option for those who want the current state-of-the-art. Other 65in rivals are available for less, however. *HCC #230*

**Panasonic TX-P42GT60** → £1,150 ★★★★★

This mid-range plasma still carries much of the technology found on Panasonic's higher-end PDPs, and delivers finessed, film-friendly Full HD visuals. Not very stylish, though. *HCC #226*

**Philips 55PFL8008** → £2,500 ★★★★★

Philips' current flagship, this 55in sports a premium design and provides electrifying HD images. The Smart portal could be improved, however, and setup is fiddly. *HCC #224*

**LG 50PA650T** → £500 ★★★★★

A 50in plasma TV for £500 is hard to ignore, and this LG rewards thrifty buyers with a solid performance. No 3D or Smart tech here – just bigscreen HD images and neat styling. *HCC #219*

## TECH INFO: TELEVISIONS



**Plasma or LCD?:** The TV market is increasingly dominated by LED-lit LCD screens that are much, much thinner than traditional cold cathode fluorescent lamp (CCFL) screens. For 42in and above, plasma display panels (PDPs) come into play, although LED screens up to 90ins are also hitting the high street – and 85in 4K panels are also on offer. Plasma screens generally offer superior black levels, better viewing angles and less 3D crosstalk, but less brightness and more energy consumption. There's also a limited choice – only Samsung, LG and Panasonic are selling plasma TVs in the UK, and the latter will soon stop.



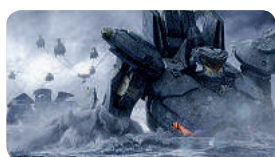
**Active or Passive:** At the beginning of the 3D revolution, most TVs featured the Active system that uses relatively expensive, powered 3D specs to deliver Full HD images to each eye. Passive 3D TVs, which are increasingly common and now sold by LG, Philips, Toshiba, Sony, and Panasonic, have a filter over the screen and use non-powered specs with polarising filters. The glasses are cheap as chips, but the resolution of Full HD 3D is halved to 540 lines horizontally (but remains at 1,920 vertically). Glasses-free 3D is in its infancy, with just Toshiba's ZL2 set currently on sale.

## TOP 5 BLU-RAY MOVIES

**Fast & Furious 6: Extended Action Packed Edition**

This is pure escapism on a cracking BD disc – the car acrobatics and rapid-fire fist-fights are delivered with pin-sharp 2.40:1 visuals and a precision-steered soundmix.

★★★★★

**Pacific Rim 3D**

While the lack of a 7.1 mix is disappointing, Guillermo del Toro's monster mash still delivers demo-worthy hi-def visuals in both its 2D and 3D incarnations. It also comes loaded with fantastic extras.

★★★★★

**Man of Steel 3D**

Looking for a lossless soundtrack that is guaranteed to push your audio setup to its absolute limits? Then do yourself (and your home cinema) a favour and pick up Superman's latest cinematic outing.

★★★★★

**The Wicker Man: The Final Cut**

Boasting three different edits of the movie (including a stunning restoration of a new 'Final Cut') and oodles of extras, this is the definitive hi-def edition of Robin Hardy's cult British shocker.

★★★★★

**Iron Man 3**

This third outing for Robert Downey Jr's superhero reignites the franchise, with director Shane Black injecting some wry humour into the mayhem. Walt Disney's Blu-ray doesn't disappoint in AV terms either.

★★★★★



## Top 10 BLU-RAY PLAYERS

All prices are approx and may have changed

- 1**  **Oppo BDP-103EU → £500 ★★★★★**  
 Oppo's first deck for two years was worth waiting for. The universal BDP-103EU features a class-leading build and all manner of bonus goodies, including twin HDMI inputs. AV performance is faultless, and the onscreen menus are superb. A new model, the £600 BDP-103D, adds Darbee Visual Presence processing for you to play with. *HCC #215/#228*
- 2**  **Sony BDP-S790 → £240 ★★★★★**  
 This range-topping deck represents a bargain AV purchase. As well as its 4K upscaling, the Sony delivers BDs and DVDs with aplomb, spins SACDs and offers twin HDMI outputs. *HCC #210*
- 3**  **Oppo BDP-105EU → £1,000 ★★★★★**  
 This heavyweight deck builds on the premium picture performance of the BDP-103EU with a wealth of audiophile upgrades – if you're serious about music, check it out. *HCC #217*
- 4**  **Marantz UD7007 → £1,000 ★★★★★**  
 Marantz's top-line player doesn't bother itself with feature fads like 4K upscaling, preferring to offer faultless BD playback, music streaming (including FLAC) and balanced outputs. *HCC #220*
- 5**  **Pioneer BDP-450 → £230 ★★★★★**  
 An affordable universal player, the BDP-450 ignores analogue outputs and concentrates solely on the digital age. Well-built and an assured performer. *HCC #219*
- 6**  **Denon DBT-3313UD → £900 ★★★★★★**  
 As a 'transport', this universal deck lacks built-in decoders and analogue outs, but partner it with one of the brand's AVRs via Denon Link HD and you'll be rewarded. *HCC #217*
- 7**  **Panasonic DMP-BDT500 → £300 ★★★★★★**  
 Panasonic's range-topper loves your Blu-ray collection. HD images are sharp and fluid and it doubles as a great Smart hub. The touchpad remote is a bit tricky, though. *HCC #208*
- 8**  **Sony BDP-S5100 → £140 ★★★★★★**  
 Smaller than many BD decks, Sony's 'Sense of Quartz'-styled spinner offers SACD compatibility and plenty of VOD content. The menu system needs streamlining, though. *HCC #222*
- 9**  **Panasonic DMP-BDT330 → £200 ★★★★★★**  
 New for 2013, this slim-line spinner is a solid choice, although the Viera Connect portal is beginning to feel a bit out-dated and the DMP-BDT500 (above) offers better features. *HCC #221*
- 10**  **Pioneer BDP-160 → £130 ★★★★★★**  
 The successor to the BDP-150 adds integrated Wi-Fi, making media file playback simpler. The Smart hub is still practically empty, but SACD support softens the blow. *HCC #227*

## TECH INFO: BLU-RAY PLAYERS

**Matching your deck to your AV receiver:** Blu-ray decks are designed to deliver top-notch images (some do it much better than others, of course) but Blu-ray is also about enjoying superior quality sound. When choosing a player, bear in mind the connectivity and decoding features of your AV receiver. If you're still using an older model that doesn't offer HDMI inputs, then you'll need a Blu-ray player with multichannel analogue audio outputs to enjoy decoded hi-res surround sound formats. Similarly, older but still HDMI-equipped receivers may not be able to cope with 3D video signals, in which case you'll need a deck with dual HDMI outputs – one channeling audio to your receiver amp, the other piping video direct to your TV.

**What about the PlayStation?:** Sony's console still represents an easy path to hi-def heaven. For a low-budget home cinema system, the £200 PS3 Slim (160GB) makes a decent choice – especially if you like playing games (in 3D, if you fancy it). Control via a joy pad is a pain, though, and the console runs more noisily than most BD spinners. The new PS4 currently doesn't offer 3D BD (or CD) playback.



## DEMO DELIGHT

**Prometheus:** Ridley Scott's return to the sci-fi genre is a treat for your senses, with a crystal-clear HD image and spine-tingling sonics. The 3D presentation of this outer-space horror is impressive too – it oozes depth and proves utterly immersive

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## TOP 10 PROJECTORS

All prices are approx  
and may have changed**Sony VPL-VW500ES** → £8,800

Sony's second-gen 4K projector is around half the price of the VPL-VW1000ES (below) and comes with HDMI 2.0 chippery and Triluminos colour wizardry. Auditioning this class PJ is a no-brainer. *HCC #228*

**JVC X55** → £5,000 ★★★★★

Armed with a more flexible, second iteration of JVC's e-shift pixel-polishing wizardry, the X55 offers supreme clarity as well as impressive contrast and near-faultless 3D presentation. *HCC #219*

**Sony VPL-VW1000ES** → £17,000 ★★★★★

Sony's flagship projector is an absolute triumph, giving film fanatics the chance to upscale their Blu-ray collection to 4K resolution. The start of a new era? We hope so! *HCC #209*

**SIM2 Super Lumis** → £37,000 ★★★★★

With a more potent lamp than its Lumis forebear, this new light-cannon from SIM2 costs an arm and leg, and is only Full HD, but delivers an astonishing level of performance. *HCC #227*

**JVC X75** → £6,500 ★★★★★

This offers an increased contrast over its DLA-X55 stablemate plus greater calibration options. It's a better performer, too, but whether it's worth the extra outlay is your decision. *HCC #225*

**Sony VPL-HWES** → £2,800 ★★★★★

Not one of Sony's 4K models, but this keenly priced Full HD projector delivers where it counts, with solid calibration options, simple setup and brilliant 2D visuals. *HCC #230*

**Epson EH-TW8100** → £2,300 ★★★★★

Don't want the ISF certification, 3D glasses or wireless HD transmission of the EH-TW9100W? Then save yourself £600 and grab this well-priced offering instead. *HCC #218*

**Panasonic PT-AT6000E** → £2,900 ★★★★★

Panasonic's PJ is a brilliant performer with 2D, but 3D movies could do with an increase in brightness. Maybe that's why you don't get any 3D spex bundled in the box... *HCC #215*

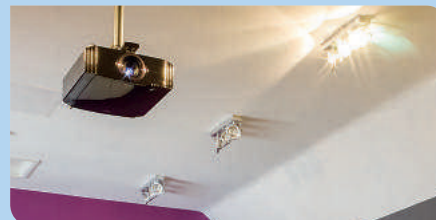
**Optoma HD25** → £800 ★★★★★

Optoma's newest projector provides bright, stable Full HD 3D (with the Active glasses and RF transmitter included) and great-looking 2D visuals for a pittance. A bit noisy. *HCC #220*

**BenQ W1070** → £700 ★★★★★

A brilliant bargain proposition, the BenQ W1070 packs a surprising amount of useful features, including ISF certification. You'll need to fork out extra for 3D glasses, though. *HCC #220*

## TECH INFO: PROJECTORS



**Installation:** Although projectors can be temporarily placed on a cupboard, stand or shelf situated at the rear of the room (use the adjustable feet on its base to level the image so that it aligns with the screen), a much better long-term solution is to mount it on your ceiling with an appropriate bracket. Projectors can be quite heavy, though, so it's important to ensure that the bracket is attached firmly – ideally, it should be secured to a joist. Position your PJ so that an imaginary line from its lens to the opposite side of the room hits the screen exactly half-way along its width. The location of your screen should therefore dictate where your projector is. A decent tape-measure or laser pointer will help you to determine the position.

**Throw distance:** Throw distance specifies the distance between the projector and screen for a focused image of given size. As the vast majority of projectors are equipped with a zoom lens, minimum and maximum throw distances are often specified – say, 3.01m to 6.08m for a 100in. 16:9 image. Shorter throw distances are ideal for smaller rooms, and longer ones for larger rooms. Simple.

**Throw ratio:** Sometimes, a manufacturer will quote a throw ratio rather than a throw distance. This is basically the throw distance divided by the image width. To get the projected image size, divide the distance between projector and screen by the specified figure. Once again, the inclusion of a zoom lens means that upper and lower figures are usually specified.

## Bedroom TV - comfortable at last

Modern TVs have become light enough to be installed in your bedroom, according to the rules of ergonomics:

- TV should be placed in the natural line of sight. A person lying in bed naturally looks at an angle of about 45 degrees relative to the floor level.
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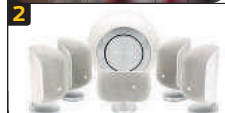




## Top 10 SPEAKERS

All prices are approx  
and may have changed**KEF R Series 7.1** → £6,500

A 7.1 array mixing both dipolar and direct radiating surrounds, this authoritative package takes its cues from KEF's Blade concept speaker and offers faultless, largescale, home cinema sonics. *HCC #217*

**Bowers & Wilkins MT-60D** → £2,000 ★★★★★

This 5.1 set sits at the upper end of the sub/sat market, but buyers are rewarded by a potent performance, with the PVID subwoofer dazzling in particular. They look lovely, too. *HCC #212*

**Q Acoustics Q2000i** → £600 ★★★★★

Another superior sub/sat array from the sonic wizards at Q Acoustics, this marries some surprisingly full-bodied satellite speakers to an easy-to-accommodate 2 x 6in sub. *HCC #211*

**Wharfedale Diamond 100 HCP** → £950 ★★★★★

Yet another excellent affordable package from Wharfedale, the Diamond 100 HCP offers a sound quality beyond what you might expect from its sub-£1,000 ticket. Maturely styled. *HCC #224*

**M&K Sound S150 MkII** → £7,150 ★★★★★

A no-nonsense 5.1 package with Hollywood heritage and THX Ultra2 certification, this is all about uncoloured, deeply detailed audio rather than flashy aesthetics. *HCC #225*

**DALI Epicon 5.1** → £17,000 ★★★★★

Not a cheap option, but buyers of this DALI package are rewarded by a sublime performance. Music and movies benefit from high-end proprietary tech; build quality is fantastic. *HCC #222*

**Tannoy Precision Series 5.1** → £4,450 ★★★★★

These speakers' classic look belies the brand's hi-fi heritage, but this multichannel setup works wonders with movies, too – a rich, large and dynamic sound is on offer. *HCC #226*

**Monitor Audio Radius R90HT1** → £1,500 ★★★★★

The long-loved Radius speakers have been revamped with new drivers and rear ports, and this 5.1 set provides a clear, detailed sound with plenty of heft. Looks good in white, too. *HCC #230*

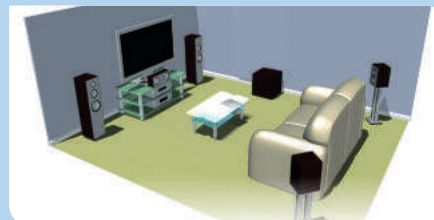
**KEF E305 5.1** → £900 ★★★★★

The living room-friendly looks of KEF's newest set of 'eggs' will ensure they get a lot of fans, and sound quality, courtesy of the brand's Uni-Q driver array, is superb. *HCC #222*

**Cambridge Audio Aero 5.1** → £1,350 ★★★★★

BMR drivers help to create a wide yet cohesive soundstage, and the balance between potent bass and clear high frequencies suits all material. Bit old-fashioned style-wise, though. *HCC #228*

## TECH INFO: SPEAKERS



**Centre speaker:** Handles most of the dialogue and onscreen effects. Should be positioned above or below the screen as close to it as possible. Of course, if you're using a projector screen, it should ideally be placed behind it.

**Front speakers:** Left and right speakers should be positioned either side of the screen, in line with the centre. Turn the speakers in slightly to face the listener if there isn't an even movement of sound across the front of the room.

**Subwoofer:** Can be positioned wherever it sounds best or can be tucked out of sight due to the non-directional nature of low-frequency signals. Be aware that close positioning in corners or next to walls can create a boomy effect.

**Surrounds:** Position alongside the listener, pointing in or slightly behind the ears for a good surround effect. The back wall is not a good position for surrounds – it is, in fact, where you should locate the sixth and seventh speakers (rears) in a traditional 7.1 array.

## DEMO DELIGHT

**Gladiator:** While it's often the low-end oomph of your sub that impresses friends and family, the high-frequency poise of your speakers is equally important, lending authenticity to the copious Foley effects that litter film soundtracks. The Colosseum fight sequence in *Gladiator*, with its clashing swords, is a perfect test for your tweeters



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## TOP 10 AV RECEIVERS/AV PROCESSORS

All prices are approx  
and may have changed**Sony STR-DA5800ES** → £2,200

★★★★★

Sony's follow up to the STR-DA5700ES continues to pack handy features (built-in Ethernet switching, a unique video-on-demand platform), ups the channels to 9.2, and brings a suite of great post-processing modes. *HCC #223*

**Denon AVR-4520** → £2,300 ★★★★★

Denon's flagship AVR sees the brand return to the high-end in style. This 9.2-channel powerhouse mixes subtlety and detailing with brute force and dynamism. *HCC #218*

**Arcam AVR750** → £4,000 ★★★★★

If all you want from an AV receiver is vast power and effortless performance, this high-end 7.1-channel beast is tailored to you. Little bonus features beyond audio networking. *HCC #225*

**Krell Foundation** → £6,500 ★★★★★

One of the US marque's more affordable offerings, the Foundation is a seven-channel processor that delivers an insightful, smooth and epic sound. And it looks fab. *HCC #224*

**Yamaha CX-A5000** → £2,500 ★★★★★

Part of Yamaha's new high-end separates line (you can match it with the MX-A5000 amp), this 11-channel processor sounds clean, precise and offers a dizzying range of features. *HCC #228*

**Marantz AV8801** → £2,500 ★★★★★

The brand's high-end 11-channel processor offers balanced outputs and heavyweight engineering. Partner it with the MM8807 power amp for a supreme performance. *HCC #220*

**Onkyo TX-NR626** → £400 ★★★★★

Packing both Bluetooth and Wi-Fi (without the need for optional dongles) means this affordable Onkyo is ideal for network audio. Multichannel delivery is energetic, if a little brash. *HCC #226*

**Pioneer SC-LX87** → £2,000 ★★★★★

A multi-talented 9.2-channel AVR that excels in terms of clarity and scale. Wi-Fi is via a supplied adaptor, and the UI is beginning to look dated compared to the competition. *HCC #230*

**Denon AVR-X4000** → £1,200 ★★★★★

A revamped GUI makes the AVR-X4000 pretty on the eye, but it's still not a fool-proof user experience. Sonically it's assured and the media streaming side is hard to fault. *HCC #226*

**Yamaha RX-V675** → £500 ★★★★★

The new low/mid-range RX-V675 digs out all the sonic details of your Blu-ray platters and places them across the soundstage. A great-sounding AVR at a good price. Primitive UI. *HCC #225*

## TECH INFO: AV RECEIVERS



**Tackling new heights:** You may find your AV receiver offering Dolby Pro-Logic IIz, Audyssey DSX or DTS Neo: X post-processing – possibly all three. All of these can deliver two further Front Height channels, with the aim of adding weight and control to the front soundstage, particularly in terms of lifting the centre channel and adding scale to vertical surround effects – rainfall for example. The catch is that you will need to add two new physical speakers, mounted near your ceiling above the regular left and right channel cabinets, and make use of two of the receiver's channels of amplification, which could mean forgoing a second stereo zone or rear surrounds speakers. Note that the Audyssey and DTS modes also cater for Front Wide speakers (pictured above), but this idea seems to be gaining less traction within the industry.

**How much power?:** Many of the mass-market AV receiver manufacturers are involved in a specifications race to see who can say their model is the most powerful, which can be confusing for consumers. For instance, both Krell's £7,000 S-1500 seven-channel power amp and Yamaha's £500 RX-V675 both claim 7 x 150W – the important part is that Krell's figure is into an eight-ohm load with all channels driven, and that Yamaha's is with one channel into a four-ohm load, which is hardly a real-world situation. The best advice is ignore the numbers game and get a demo of your desired AVR with the same, or similar, speakers that you intend to partner it with.

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# Top 10 SUBWOOFERS

All prices are approx  
& may have changed

- 

**Bowers & Wilkins DB1** → £3,250 ★★★★★

Featuring a bipolar arrangement of 12in drivers powered by 1,000W of amplification, B&W's stylish flagship sub is a faultless performer, offering both musicality and sheer muscle. Fit to partner the finest of speakers. *HCC #197*
- 

**JL Audio Fathom F212** → £5,900 ★★★★★

The US brand arrives in the UK in style – this 2 x 12in, 3,000W brute not only looks gorgeous, it's capable of a mindblowing performance. Got a big room? Get one of these! *HCC #214*
- 

**Tannoy TS2.12** → £550 ★★★★★

The TS2.12 is easily Tannoy's best woofer yet – using a 12in driver (opposite a passive 12in cone) and 500W amp to deliver a rich, bass performance. Affordable and good-looking, too. *HCC #208*
- 

**Velodyne SPL-800 Ultra** → £1,150 ★★★★★

Proof that even 'small' subwoofers can offer a brilliant performance. The 8in driver is helped by a 1,200W amp and mic-assisted room EQ. Tight and fast. *HCC #201*
- 

**REL Acoustics T-7** → £650 ★★★★★

The T-7 uses an 8in driver in tandem with a 10in passive radiator, and features simultaneous speaker-level and LFE inputs and Class A/B amplification. An excellent all-rounder. *HCC #223*
- 

**Bowers & Wilkins PVID** → £1,200 ★★★★★

On of the coolest-looking subs on the planet, B&W's revamped PVI uses DSP trickery to craft an opulent low-end performance. The touch-sensitive OLED display is pure class. *HCC #212*
- 

**Velodyne DD18+** → £5,800 ★★★★★

If you have a large cinema room then this second-gen 18in beast from Velodyne will appeal. The performance is as brilliant as you'd expect for the price and specification. *HCC #197*
- 

**REL G1** → £3,300 ★★★★★

A top-of-the range woofer with a price tag to match, buyers of REL's G1 can rest assured they're getting a best-in-breed product. Delivers a warm, rich sound with slam and depth. *HCC #208*
- 

**SVS SB12-NSD** → £650 ★★★★★

A 12in driver squeezed into the smallest enclosure possible, the SB12-NSD packs a 400W 'Sledge' amp and offers a weighty yet fast and accurate sound. Looks a bit bland, though. *HCC #223*
- 

**Quadral Qube 10** → £525 ★★★★★

A gorgeous-looking woofer with a build quality that belies its lowly price tag, the Qube 10 takes Quadral's musical heritage and delivers a controlled, poised performance. *HCC #223*

## TECH INFO



**Why use more than one sub?:** Using two subwoofers (or perhaps four) should, in theory, bring huge rewards in terms of bass performance. But remember that LFE is a tricky beast to control. Running two subs may simply double problems in your room like room boom and suck-outs, where outgoing and reflected bass sounds cancel each other out. If you have some flexibility in where you place subwoofers, trial and error may well throw up some interesting results. The acoustics wizard Floyd E Toole (his book *Sound Reproduction: The Acoustics and Psychoacoustics of Loudspeakers and Rooms* is fine bedtime reading) suggests one LFE sub to either side of the room may be best for accuracy while placing them in the front corners would be best for overall bass power. Yet there is no hard and fast rule as to what will work best for every room, and you may find that simply using one (large) subwoofer is preferable as it's the easiest to get sounding right.

## DEMO DELIGHT

**Oblivion:** Joseph Kosinski's sophomore sci-fiction flick looks spectacular on Blu-ray, and its visual panache is matched by a 7.1 audio mix that particularly impresses with its low-end extension. The subwoofer channel here is regularly employed, dropping deep and loud to accompany everything from explosions and weapons fire to the roaring engines of Tom Cruise's recon ship. Love your lows? Then love this.

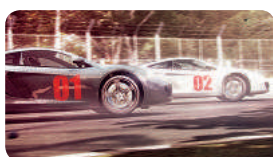
# Top 5 HD GAMES



## Injustice: Gods Among Us

A beat 'em up incorporating a bevy of DC Comics characters (Superman, Batman, Wonder Woman *et al*) sounds like a great idea – and it is. Accessible to novices and suprisingly fun in the single-player mode. Pow!

★★★★★



## Grid 2

Codemasters' sequel is the king of arcade racers, with the souped-up cars handling like a dream and the opposition's AI ensuring victories are well-earned. Photo-realistic vehicles and environments dazzle.

★★★★★



## Grand Theft Auto V

Rockstar's newest slice of car-jacking, gun-wielding fun is absolutely massive in both scale and ambition – a big-budget game that will leave a big grin on your face. Graphically gorgeous, and the 5.1 mix isn't bad, either.

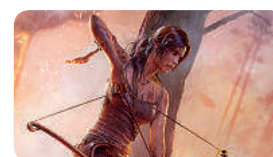
★★★★★



## Assassin's Creed IV: Black Flag

This sequel takes to the high seas for piratical fun, with an enormous open world, absorbing gameplay, beautiful graphics and a soundtrack packed with well-realised ambient effects.

★★★★★



## Tomb Raider

Lara Croft returns in this fantastic reboot that breathes new life into the third-person action genre. With a great story and quality graphics and sonic design it feels like a Hollywood blockbuster. Just with a joypad.

★★★★★



## TOP 10 ACCESSORIES

All prices are approx and may have changed

- 1 Now TV box → £10 ★★★★★**  
 An unqualified bargain, this Wi-Fi VOD streamer from Sky (and built upon Roku hardware) brings BBC iPlayer, Demand 5 and the Roku Channel Store to any HDMI-toting telly, plus subscription access to Sky Movies and Sky Sports. The quality of the adaptive bitrate streaming is impressive, and the £10 tag gets you P&P and an HDMI cable. *HCC #226*
- 2 Devolo dLAN 500 AV Wireless+ → £130 ★★★★★**  
 Combining Powerline Ethernet distribution with integrated Wi-Fi, this starter kit is a great purchase if you're looking to extend and simplify your home network. *HCC #222*
- 3 Arcam irDAC → £400 ★★★★★**  
 Arcam replaces the earlier rDAC with a model that boasts more inputs (now 192kHz capable) and completely revised innards. An excellent performer great for computer music. *HCC #228*
- 4 PSB M4U1 → £220 ★★★★★**  
 These closed-back 'phones are excellent all-rounders – agile and clear with music, while possessing enough low-frequency prowess to give weight to BD soundtracks. Comfy, too. *HCC #221*
- 5 Philips Hue → £180 ★★★★★**  
 These Wi-Fi enabled lightbulbs might be expensive (this £180 starter pack includes two, plus the Wi-Fi bridge) but making your own multicoloured lighting scheme is a blast. *HCC #220*
- 6 Roku 3 Streaming Player → £100 ★★★★★**  
 This step-up streamer builds upon the cute design and simplified operation of the Roku LT with welcome additions including SD card support, headphone input and 1080p video. Neat. *HCC #230*
- 7 Microsoft Xbox One → £430 ★★★★★**  
 Not as graphically potent as the PS4 (below) but the new Xbox lives up to its billing as a home entertainment hub – voice control and multi-tasking tricks prove very useful. *HCC #230*
- 8 One For All Simple 4 → £22 ★★★★★**  
 A neatly styled and backlit universal remote control, One For All's budget zapper can tackle up to four devices at once and offers easy setup and handy shortcut keys. *HCC #220*
- 9 Bang & Olufsen Beolit 12 → £600 ★★★★★**  
 Pricy for an AirPlay speaker, but the performance and rugged build of B&O's semi-portable Beolit 12 justify the outlay; the onboard 120W amp delivers the goods. *HCC #224*
- 10 Sony PlayStation 4 → £350 ★★★★★**  
 The PS4 offers a killer gaming experience, with the under-the-hood power resulting in great-looking games. Yet it has a few foibles. Wanna play 3D BDs? You'll be disappointed. *HCC #229*

## TECH INFO: MEDIA PLAYERS

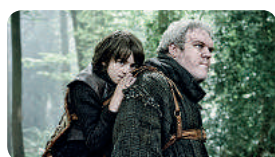


**What about my TV?:** Many flatscreen TVs from the major brands (Sony, Samsung, Panasonic, LG, Toshiba and Sharp) also incorporate media player functionality, using Ethernet or Wi-Fi to stream from your home network, or from plugged-in USB drives. Most modern Blu-ray players offer this, too. However, file support is rarely as extensive as on dedicated devices from the likes of Western Digital and A.C. Ryan, and our experience shows some are more adept at playback from USB than over a network. Nor (obviously) is a TV or BD player portable. If your media collection extends beyond JPEGs and MP3s into lossless audio rips and esoteric HD video formats, then a standalone player is a good investment.

**Storage:** You can, if you really want, store all your files on a plethora of USB drives, or on your PC, but it's best to get a NAS (Network Attached Storage) device for simplified sharing of your media across a network with multiple players, such as one from Netgear's ReadyNAS range (pictured). These dedicated devices often offer RAID array file backup, and are managed via browser software. Storage capacity can be anything from 1TB to 12TB and beyond.



## TOP 5 BLU-RAY BOX SETS

**Game of Thrones: The Complete Second Season**

Another ten episodes of prime fantasy TV gets a spectacular Blu-ray release courtesy of HBO Home Entertainment – the picture and sound quality consistently impresses.

★★★★★

**The Walking Dead: The Complete Third Season**

The best series of zombie TV yet, this third run shuffles onto Blu-ray with authentic 1.78:1 HD imagery and atmospheric and spine-tingling DTS-HD MA sonics. Roll on S4.

★★★★★

**Universal Classic Monsters: The Essential Collection**

Bag yourself eight great monster movies given a thorough cleanup by Universal Studios – and marvel at the sheer brilliance of *The Creature from the Black Lagoon* in 3D.

★★★★★

**James Dean: Ultimate Collector's Edition**

Warner Home Video has given *East of Eden*, *Rebel Without a Cause* and *Giant* 4K restorations from their original camera negatives. The result is that these 1950s classics look fab.

★★★★★

**Doctor Who: The Complete Seventh Series**

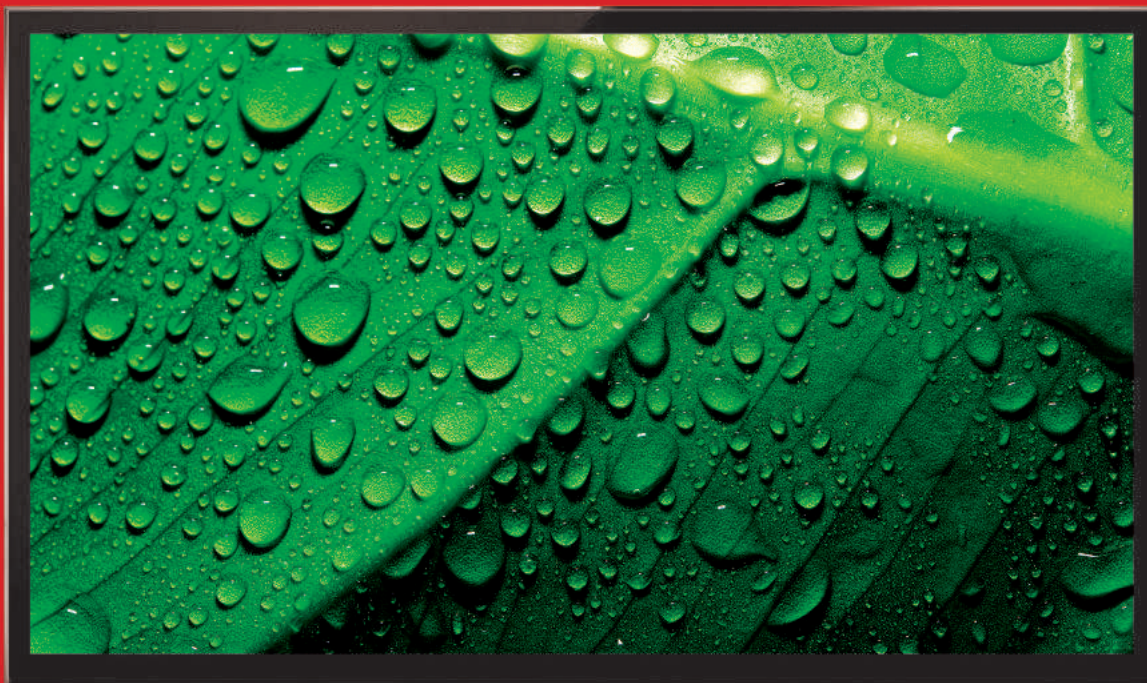
Audio commentaries, short episode prequels and featurettes are among the extras on this set collecting 15 episodes of TARDIS-based fun. The 1080i transfers impress, too.

★★★★★



The sense of drama and excitement is enhanced by the ASB-2's ability to communicate the film's score. This level of musicality is difficult to pull off in a soundbar.

ASB-2  
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## TOP 5 PVRs

**Virgin Media TiVo, £subscription**

This triple-tuner PVR offers ultimate recording flexibility, useful features – you can undelete deleted shows! – and awesome TiVo functionality. A no brainer if you're in a cable area

★★★★★

**Sky+HD, £subscription**

Sky's channel choice is second-to-none and its twin tuner 2TB PVR is a perfect partner. The recent EPG tweak is welcome and Anytime (the push VOD service) is brilliant for catching up on new movies

★★★★★

**Panasonic DMR-HW220, £250**

Panasonic's PVR mixes a 1TB hard drive with its Smart Viera functionality and media streaming – so at £250 it's an absolute steal, regardless of the uninspired design

★★★★★

**Pure Avalon 300R Connect, 1TB, £350**

Pure's debut Freeview+ HD offering is assured. While it can't match YouView for VOD content, the user interface here is unrivalled and four-way HDMI switching a welcome addition

★★★★★

**Samsung BD-F8500, £300**

This 500GB model marries its Freeview+ PVR to a Wi-Fi-toting 3D Blu-ray player and offers copious catch-up TV options – it's just a shame they aren't integrated into the EPG environment

★★★★★

## TOP 5 SOUNDBARS

**Yamaha YSP-3300, £900**

A slender soundbar/sub duo that offers a very effective virtual surround performance courtesy of Yamaha's Beam driver tech. Connections include four HDMI inputs – but there's no Bluetooth here

★★★★★

**Sonos PlayBar, £600**

Sonos' debut 'bar offers a hefty, spacious sound (although it doesn't come with a sub) and it can be easily added to an existing Sonos network for music-on-demand fun. Only connects to your TV via optical

★★★★★

**Monitor Audio ASB-2, £400**

This premium proposition marries Monitor Audio's C-CAM drivers with AirPlay and DLNA music streaming. Performance is exemplary – powerful and polished in equal measure

★★★★★

**Philips HTL9100, £600**

A soundbar/sub that incorporates two removable side speakers to allow it to become a wireless 5.1 system, this Philips is a neat proposition. Easy to install and with a heavyweight sound

★★★★★

**Bowers & Wilkins Panorama 2, £1,650**

This second-generation soundbar offers no separate subwoofer and is hardly cheap, but B&W's audio expertise shows through, and HDMI hookup aids installation

★★★★★

## TOP 5 SYSTEMS

**Panasonic SC-BTT590, £630**

The use of new bamboo/charcoal drivers and noise-shaping tech pays dividends here, with a classy sound quality to match the wealth of features (3D BD, Smart TV and more)

★★★★★

**Samsung HT-F9750W, £1,500**

Samsung's flagship tallboy array uses a vacuum tube pre-amp and offers unique DTS Neo: Fusion seven-channel processing. Powerful, fulsome sound; packed with features

★★★★★

**Harman Kardon BDS470, £650**

Harman's 2.1 system eschews 'net TV and streaming features, but majors in heavyweight build quality and solid AV performance. We tested a 2.1 iteration – 5.1 is also available

★★★★★

**LG BH8220B, £650**

With its silver finish, this is a suitable one-box system to partner with LG's flatscreen TVs, with a commendable, if slightly lacking in HF finesse, sound. Additional features including CD-ripping to USB. Handy

★★★★★

**Panasonic SC-HTB570, £350**

A commendable slim-line 2.1 system that can also be clicked together to make a soundbar. The punchy wireless subwoofer does a lot of the work. Bluetooth music streaming is onboard

★★★★★

# HOME CINEMA

## Choice

## → IN THE NEXT ISSUE

**Netflix goes 4K!** How the US giant plans to shake up the world of movie streaming  
**Best of Blu-ray** We rundown the 101 hi-def discs you can't afford not to own  
**Sony uncovered** What's planned for 2014

## → ON TEST

**Anthem MRX-510 AV receiver** **Epson EH-TW7200 projector** **Ken Kriesel 7.2 speaker array** **Tannoy HTS-101 sub/sat system** **Slingbox 350 HD placeshifter** **BenQ W1500 PJ** **PLUS** News, software, opinion, installs and more!

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# POINT OF VIEW

**Richard Stevenson** strips away some of the excesses of his home cinema setup and discovers he now has more room to sit down. But how long will his less-is-more ethos last?

**AS NOTED LAST** month, complexity is the Achilles' heel of home cinema. In an era of one-touch instant results, faffing about with the likes of THX Boundary Gain Compensation is not turning anyone on these days. We need switch-on-and-go simplicity; a clean, crisp movie-watching experience. In other words, home cinema needs to be more Zen.

Now, other than the wearing a kaftan bit, Zen is not a philosophy that comes easily to me. More has always been, well, more. On the other hand, my current 11.2 setup is far from straightforward. The complex processor, twin screens, multiple EQ systems and half a tonne of amplification takes a while just to switch on, let alone fine-tune. Eight stereo amps provide 16 channels of power, bi-amping five channels and driving the other six.

**The cabling from the processor to the amps, alone, looks like a map of the London Underground.**

So how to Zenify this system? The first things to go are the large floorstanding speakers used for width channels. While the pursuit of 11.2 has been fun, even I have to admit that having width channels only a few inches outside the main left and right speakers doesn't add a great deal to the lateral spread of the soundstage. I am limited by room dimensions – and a new room isn't an option.

Then there are the two 18in Velodyne subs. In a room 18ft long and 11ft wide, even my subwoofer dealer said one was enough. Adding the second doubled my room acoustic problems. So out went the second woofer and the extra floor space alone made the room feel bigger. The same applies to (most) of the stereo amps. Matching one with a five-channel power amp is all that's needed to drive a 7.1 system, and moving them out into the hallway made the room feel like a five-a-side football pitch.

The big elephant in the room is my Denon AVC-A1HDA processor. Given my Oppo BD player has onboard processing and 7.1-channel output with channel delays, balance and remote volume, why not get rid of the Denon altogether? Less bits of kit in the chain means more signal purity, after all.

It was also goodbye to nine miles of cabling, a secondary TV screen, a collection of ex-review calibration mics that didn't make it back with their AVRs (oops) and enough canine hair-ball tumbleweed to make myself another dog. Actually, I am banning the dogs from the room because all that taking over the sofa and snoring through the quiet scenes is really mucking up the Zen vibe.

## The cat's pyjamas

I finished with a system of high-quality essentials. Sitting on the sofa in my Garfield pyjamas (I couldn't find a kaftan), I viewed a few choice demo clips. It was good – very good – with a clarity to the sound that had been getting somewhat lost in the wall of power and speakers. Film soundtracks were engaging and articulate, with great presence and naturalness. Moreover the system was blissfully simple to operate. Insert disc, raise volume, enjoy.

It lasted five minutes before I reverted to type, of course. I was missing those height channels to pull the dialogue up to centre screen. And the bass, while still like a hammer, was more ball-pein than sledge. Where was the organ-churning grunt of my carpet of power amps? Where was the control to fine-tune the rear-channel phase and, actually, where was the spare speaker stand I had been using as a coffee table? It appears Zen was just a two-week fad... ■

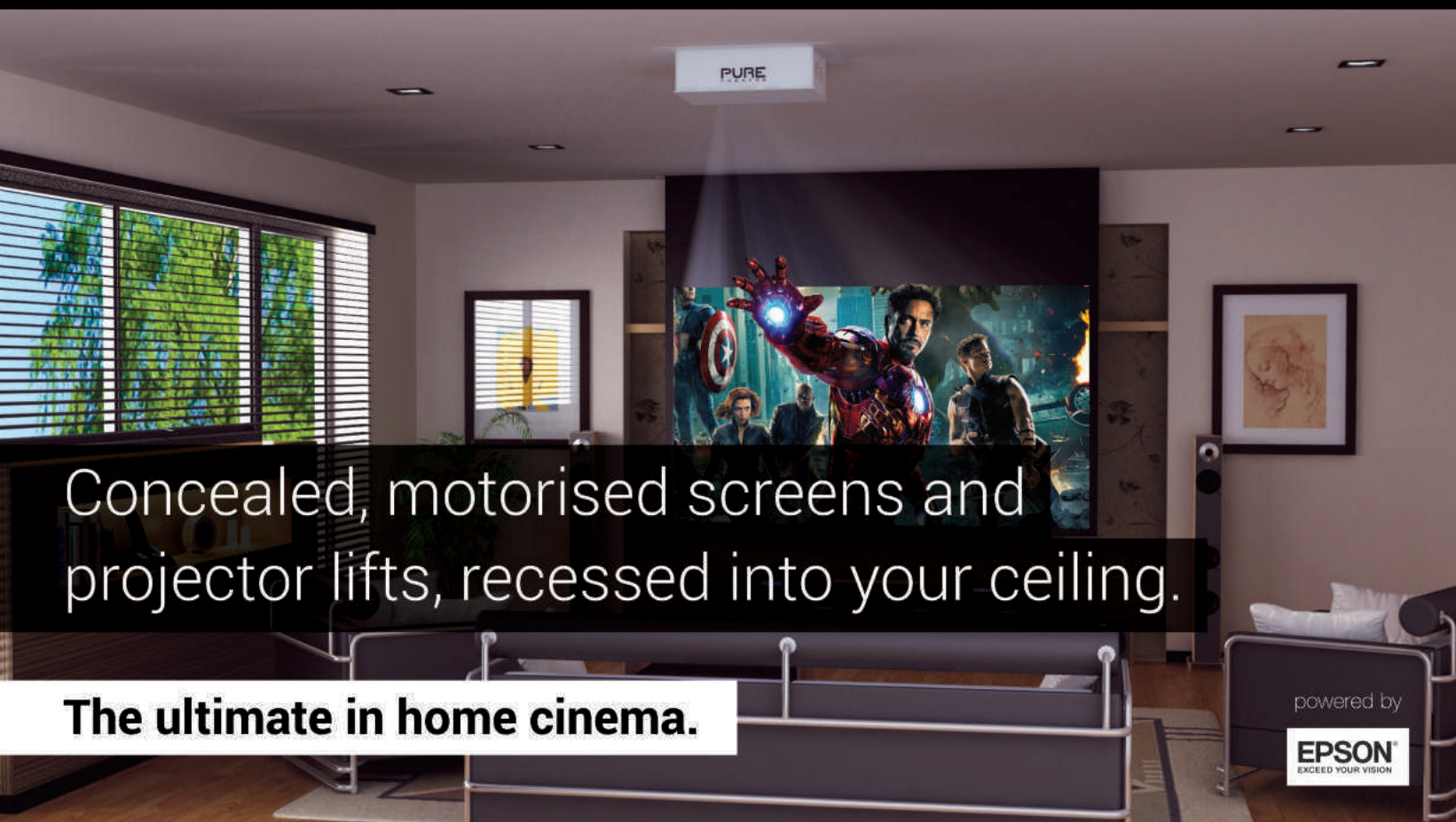
*Have you removed clutter from your AV system? Let us know: email [letters@homecinemachoice.com](mailto:letters@homecinemachoice.com)*

**Richard Stevenson** has decided to turn his collection of puck-shaped AVR calibration mics into a home-made Subbuteo set





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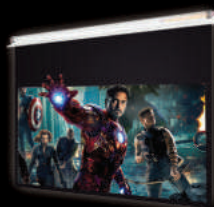
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\*\* Contrast ratio specifications are for the DLA-X900R.